



Middlesex
University
Dubai

INTERNATIONAL CONFERENCE ON
**TECHNOLOGY,
INNOVATION AND
SUSTAINABILITY**
IN BUSINESS MANAGEMENT
(ICTIS 2019)





Conference Chairs

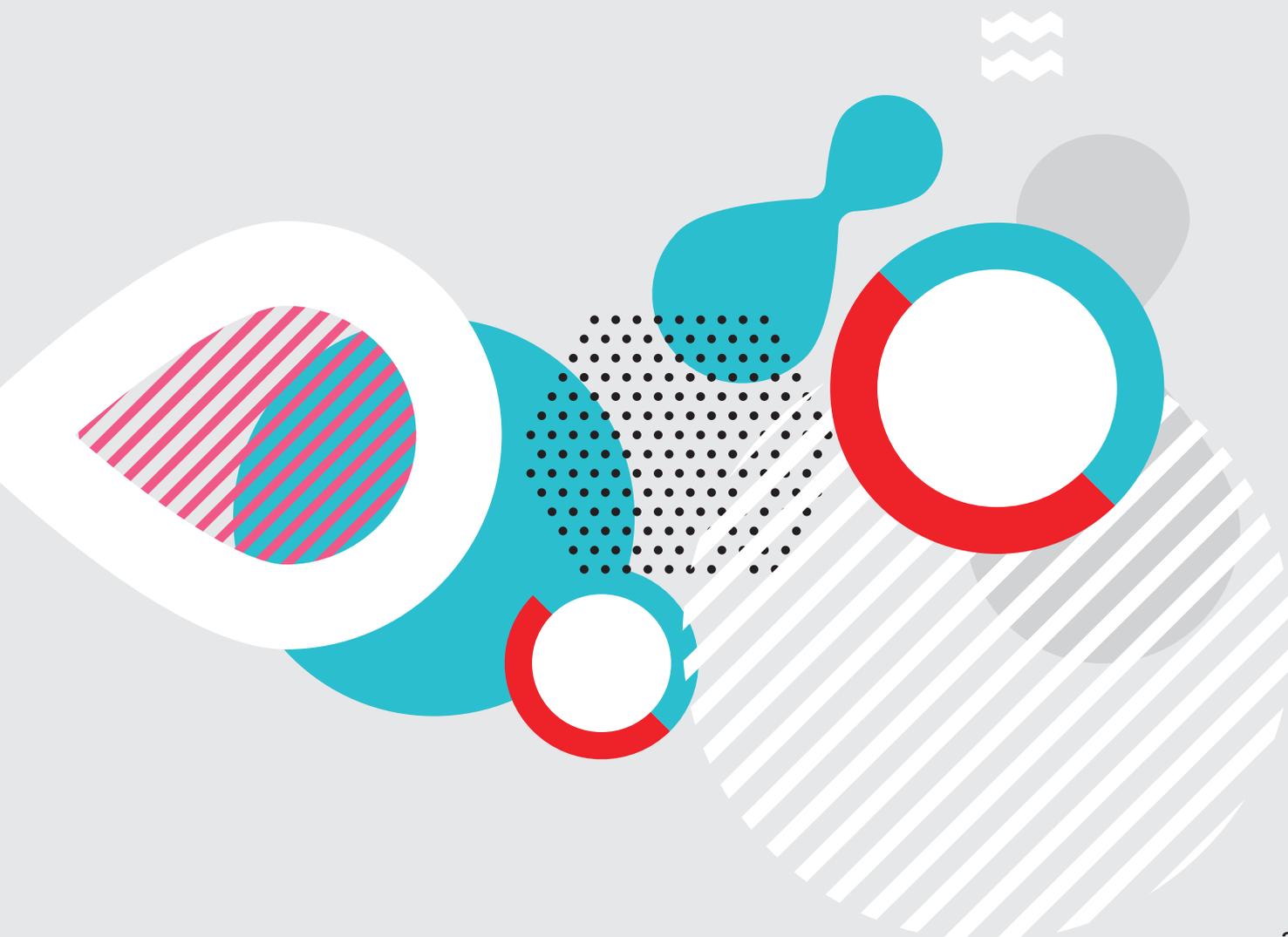
Sreejith Balasubramanian
Supriya Kaitheri
Rory McConnon

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Welcome from the Pro Vice-Chancellor, Middlesex University



On behalf of the Middlesex University Dubai, it is my pleasure to welcome you to the International Conference on Technology, Innovation and Sustainability in Business Management (ICTIS2019). Middlesex has a rich history of fostering research with our weekly Wednesday Research Seminar Series, which has featured more than 250 presentations to date, Summer Research Boot Camp, Student Research Symposium and many more. Our international faculty are some of the top researchers in their field with many of them with significant industry experience. The Middlesex Business School, which is our largest, and one of the best in the region, has put together a fantastic programme related to the conference themes that includes more than 50 oral presentations, student poster presentations, and an industry panel

session. Given that innovation and technologies are transforming every sector and almost every aspect of business, the conference is timely for practitioners and academics to debate issues that can enable companies to reinvent their businesses in a sustainable manner and to stay relevant and competitive.

We are thrilled with the quality of the abstracts received from this region and beyond. Also, we take significant pride in promoting student-faculty collaboration at this conference in line with the University's vision of "Transforming Potential into Success". I am also excited that industry practitioners from our business community will be joining us in our panel session to share their experiences. I look forward to welcoming you to the University where you can feel free to explore the campus and interact with our faculty and staff. I wish you a memorable and insightful conference.

Dr Cedwyn Fernandes

Pro Vice-Chancellor and Director
Middlesex University Dubai

Welcome from the Conference Chairs, Middlesex University

We are delighted to welcome you to Middlesex University Dubai's International Conference on Technology, Innovation and Sustainability in Business Management (ICTIS2019). The conference theme has been carefully chosen to bring researchers from diverse industries and sectors to discuss, debate, and initiate a dialogue on the impact of advances in technology, innovation, and sustainability on business practices and how these can be leveraged by organizations to stay relevant and competitive. The conference will feature more than 90 authors from several countries in 50+ oral presentation sessions. In addition, the conference will host a student poster session with the aim of promoting student research, and a carefully planned industry panel session with an intent to bridge the industry-academia divide.

To put a conference together is not a small task. To that end, we want to thank Dr. Cedwyn Fernandes, Pro Vice-Chancellor, Middlesex University Dubai, and Dr. Cody Paris, Deputy Director, Middlesex University Dubai for their extended support and guidance for the conference. We also extend our deepest thanks to all those who have contributed to the conference, starting with the programme committee, the reviewers, the marketing team, our speakers, presenters, session chairs and you, our participants, and all the students, and the faculty support staff for taking time out of their busy schedules to make this a memorable conference. We hope that you will have a productive and fun-filled time at this very special conference and inspire you to initiate collaborations within and across disciplines for the advancement of our field.



Sreejith Balasubramanian



Supriya Kaitheri



Rory McConnon

ICTIS Programme Schedule, Thursday 2 May 2019

| Time | Event | | | | Venue |
|-------------|---|--|---|---|------------------------------|
| 8:30-9:00 | Registration and refreshments | | | | Foyer and Room 004, Block 16 |
| 9:00-9:30 | Opening ceremony and welcome address | | | | Oasis Theatre, Block 16 |
| 9:30-10:10 | Keynote speech - Prof. Ajit Karnik, Namrata Balwani | | | | Oasis Theatre, Block 16 |
| 10:10-10:30 | Tea and coffee break | | | | Room 004, Block 16 |
| Time | Session A | | | | |
| 10:30-11:45 | Room Oasis Theatre, Block 16 | Room 003, Block 16 | Room 308, Block 16 | Room 309, Block 16 | |
| | Track A1 | Track A2 | Track A3 | Track A4 | |
| | Shalini Ajayan and Sreejith Balasubramanian Sustainability Research in the United Arab Emirates: A Bibliometric Analysis, 1998-2018 | Samina Burhani, Shreyas Beedu, Surbhi Mathur, Rupal Jain and Roshni Mehdi Growth of UAE Islamic and Conventional Banking alongside Fintech Developments: An Empirical Analysis | Michael Kloep Success Factors and Pitfalls of Entrepreneurship in the UAE | Jacinta Dsilva The impact of Simulation Games on Learning in Higher Education: An Overview | |
| | Renu Shenoy Challenges in Implementing Sustainable Business Practices in UAE: A Theoretical Perspective | Vidya Rao TRIZ Principles as an Innovation Aid to Design Thinking in the Context of Product Design Coursework | Veronika Pereseina and Jeremy B. Williams Motivation and Drivers for Sustainable Enterprise: Case Studies from the United Arab Emirates | Nasiru Nuhu Garkuwa Relationship between attention deficit hyperactivity disorder and academic performance among primary school pupils in Katagum Metropolis Bauchi State Nigeria | |
| | Izdiyar Alssrouri and Jeremy B Williams How Sustainable are the World's Most Sustainable Companies? A Critique of the Environmental Impact of Unilever and Nestlé, and their Approaches to Sustainability Reporting | Raavee Kadam, Srinivasa Rao, Waheed Abdul and Shazi Jabeen Members' Perceptions of Diversity and its impact on Team Innovation and Performance: The moderating effects of Team Cultural Intelligence | Afshan Khan, Asma Bader Siddiqui, Krishnapriya Jayachandran and Inas Zafar Building an empire away from home: A phenomenological insight into the experiences of female expat entrepreneurs living in the UAE | Ufuk Gür Legitimizing Entrepreneurial University: The Concept of Creative University for Sustainability | |
| | Shahira El Alf, Roberta Fenech, Lawal Yesufu, Abdul Ghafar and Malini Nair Value driven CSR: Towards a new model of Internal and External CSR | Vlad Stefan Lichtenthal Exploring the "Fuzzy Front End" of Open Innovation | James Ryan Reblando, Fermin Castillo and Djonde Frega Antiado Business Climate in the GCC Region: A Case Study | Joe Martin Hays, Veronika Pereseina and Ahmad Said Ibrahim Alshuaibi Curricula for Sustainability in the MENA Region | |
| 11:45-12:00 | Tea and coffee break. Room 004, Block 16 | | | | |

| Session B | | | | |
|------------|--|--|---|--|
| 12:00-1:15 | Room Oasis Theatre, Block 16 | Room 003, Block 16 | Room 308, Block 16 | Room 309, Block 16 |
| | Track B1 | Track B2 | Track B3 | Track B4 |
| | Shahira El Alfy and Anca Bocanet Market orientation and Corporate Social responsibility: Investigating missing links | Vijaya Killu Manda, Vijaya Kittu Manda and Vedavathi Katneni Blockchain for the Asset Management Industry | Veena Tewari Quantitative Study of Contemporary Service Customer in the Sultanate of Oman | Gabor Andrasi Developing ethical managers: contrasting possible aims of ethics education with accreditation standards related to undergraduate business programmes |
| | Ramsha Wajid Satti and Rory McConnon The Impact of Corporate Social Responsibility (CSR) on Consumer Buying Behaviour in Pakistan | Anouska Saharoy Silicon Skin Patch for Non-Invasive Heart-Attack Detection | David May, Andrea Hesketh, Yauheniya Nestsiarenka and Jeremy B Williams Technology and Innovation for Sustainability: Evaluating the Effectiveness of Crowdfunding Platforms for Social Impact Investment | Djonde Frega Antiado, Fermin Castillo, James Ryan Reblando and Maher Ibrahim Tawadrous Professional Development Plans for Non-Teaching Staff: Their Role and Participation in the Academic Environment |
| | Muhammad Tariq Mahmood, Sadaf Shahab and Muhammad Hafeez The Role of Inequality and Political Stability for Sustainable Economic Growth: Analysis of South Asian Countries | Konrad Gunesch Artificial intelligence, algorithmic innovation and the automation industry as empowering or endangering to the social sustainability of human healthcare and the medical profession? Comparing scientific and popular literature within medical anthropology | Prakash Hejmadi Narayan Rao, Shazi Shah Jabeen, Srinivasa Rao and Sreejith Balasubramanian Towards a Consumer-Oriented Conceptual Model for E-commerce Sustainability | Lawal Yesufu The impact of nationalisation policies on the design of HR Information Systems; A conceptual study. |
| | Zeenath Reza Khan, Shahed Ahmaed Khandaker and Anny Rodrick Girls of Rural Sundarbans | Muhammad Rizwan, Samra Malik and Muhammad Hassan The role of eWOM (electronic word of mouth) in the purchase behaviour of experience and search products | Tadiwanashe Jorgen Musendo and Shereen Nassar Effective Go to market strategy for Consumer-Packaged Goods in BoP market in South Africa. | Mahmoud Abdelhamed and Martin Sposato The Role of Organizational Learning in Creating Agile Workforce |
| | Ahmed Abusamra and Jeremy B Williams Using Social Impact Bonds to Finance the Sustainable Development Goals in the Developing World: What Role for Government? | Nabil Abd Elraouf Ebrahim The impact of Internet things on accounting | Ganesan Subramanian, Nnamdi Ugwuoke, and Shri Krishna Pandey Smart Detector—A mobile application built on top of NEM Blockchain to prevent counterfeit medicines | Aisha Al Ali and Shahira El Alfy Investigating the role of employees training and engagement in innovative work behaviors |
| 1:15-2:30 | Networking Lunch - Block 4, Room 019 Poster presentations - Foyer. Block 16 | | | |

| Session C | | | | |
|-----------|--|---|---|---|
| 2:30-3:45 | Oasis Theatre, Block 16 | Room 003, Block 16 | Room 308, Block 16 | Room 309, Block 16 |
| | Track C1 | Track C2 | Track C3 | Track C4 |
| | Archana Popat and Jeremy B Williams Scaling-up the Adoption of Micro-grids in India through Social Impact Investment: Obstacles and Opportunities | Clare Walsh Realist Evaluation of FinTech and Higher Education: What works, for whom and why? | Rajesh Jayakar Pai and Mr Kannan Devarajan Enhancing stakeholder value in the securities ecosystem under changing technology landscape | Masud Khawaja Back to the Basics – Clinical Interview Skills trump COWs Technology |
| | Judhi Prasetyo, Rhoderick Romano and Engie Bashir Towards Reducing Power Consumption in Classrooms and Labs: A Case Study at Middlesex University of Dubai | Akshat Kumar Tyagi Investigating Trends in Cyber Security Threats in the 21st Century | Quratulain Mehdi, Dr Cody Paris, Dr Sreejith Balasubramanian Beyond the Journey: Exploring Radio Advertisements and Domestic Tourist Behaviour Towards RAK, UAE | Rajeni Nagarajan and Mrutyanjaya Sahu The Impact of Organizational Behavior on Organizational Performance and Sustainability: A Case Study of Shipping Companies in Dubai |
| | Abdul Aalim Bin Aslam, Fakhriyor Jamoliddinov, Sarthak Sharma and Jacinta Dsilva Challenges of Using Sustainable Solutions in Paper Manufacturing Firm: A Case Study | Habibu Babayo and Suleiman Mamman Design and Implementation of Bulk SMS Application for Public and Private utilization in Yobe state Nigeria | Sunder Ramachandran and Abdullah Abonamah Brand Loyalty Formation Among Smartphone Consumers in UAE | Hima Parameswaran Career Dynamics - A novel tactic in Human Resource Development |
| | Anup Pratap Chandar and Mohammad Meraj Quality Culture and Burnout: A qualitative study of early career employees' expectations in the Indian oil and gas industry | Usman Suleiman, Ajiya and Madu Comparing the Usability of Windows 7 interface with Windows 8 Metro Interface Using Desktop and Laptop Computers | Mohammad Jebreel and Jeremy B Williams Why Innovation in Sustainability Reporting is Not Encouraging Sustainable Development | Sujala Shetty and Saugaat Allabadi Leveraging Blockchain for Identity Management and Recruitment Sector |
| | | Rajesh Jayakar Pai and Kannan Devarajan Embracing disruption, growing profitability and gaining competitive advantage in banking and payments | Meike Schulte, Cody Paris and Sreejith Balasubramanian Blood Diamonds and Ethical Consumerism - An Empirical Investigation | |
| 3:45-4:00 | Tea and coffee break. Room 004, Block 16 | | | |
| 4:00-5:00 | Panel Session - Oasis Theatre | | | |
| 5:00-5:30 | Best Paper Awards & Closing Ceremony - Oasis Theatre | | | |

Keynote Address

Issues in Measuring Sustainable Development



Prof. Ajit Karnik

Ajit Karnik is a Professor of Economics at Middlesex University Dubai. He has been Reserve Bank of India Professor of Political Economy and Director, Department of Economics, University of Mumbai. He has had visiting appointments at (1) University of Texas at Austin; (2) St. John's College, University of Cambridge; (3) University of California at Berkeley; and (4) Wolfson College and Faculty of Economics and Politics, University of Cambridge.

He has supervised 11 Ph.D. theses, 5 M.Phil dissertations, over 70 MBA dissertations, 25 MA in Marketing Communications dissertations and 4 M.Sc. in Banking and Finance dissertations. Ajit Karnik's research specializations comprise political economy, fiscal economics, economic growth and econometrics. He has published 40 papers in refereed journals, 12 papers in edited books, 90 other papers (including conference and working papers). He has also authored 3 books and edited 6 books/Special issues. He has undertaken consultancy for the Government of Maharashtra (India), United Nations Development Programme, World Bank, Unilever India and KPMG. He has been referee for numerous journals such as Public Budgeting and Finance, International Review of Applied Economics, Economics and Politics, Journal of Sports Economics and Journal of Federalism.

Keynote Address

Impact of Digital Transformation on Businesses



Namrata Balwani

Namrata Balwani heads Digital Marketing and Analytics at the Landmark Group. She is a believer in omnichannel marketing and in making evangelists of customers. She has previously led the digital marketing and transformation journey for some world leading brands, as an agency partner. She took an entrepreneurial leap early in her career and co-founded Media2win, an award-winning, an independent digital agency in India in 2005. She has also held leadership roles in leading agencies in the WPP

Group. She is excited by the tremendous potential for digital change in the Middle East.

Special Panel Session



Dr Krishnadas Nanath

Dr Krishnadas in his current role at Majid Al Futtaim is responsible for leading the efforts of enhancing Analytics and Data Science capabilities @Majid Al Futtaim as part of School of Analytics & Technology (Leadership Institute). Prior to joining MAF, he was a Professor of Data Science, MIS and Cloud Technologies at Middlesex University Dubai in the Information Systems Area. He has executed several corporate training programmes and Data Science consulting assignments with prestigious firms in UAE (PWC, Landmark Group, National Bank of Fujairah, UAE Exchange and others). He has been the Keynote Speaker at several prestigious forums including Gitex Technology Week IIM Ahmadabad Data Science Summit, Smart Data Conference, Droidcon, Machine Learning Summit, Abu Dhabi Quality Council and several conferences.



Anup Namboodiri

Anup is working as a Senior Client Advisor - UAE Government Sector, with SAS. He has vast experience in the world of banking technology ranging from investment banking systems, risk management, anti-money laundering solutions and more across Asia, East & West Africa and the Middle East; and his role at SAS includes advising government agencies through their analytics, data management and visualization journey, helping them harness the power of data science to serve its citizens better and more.



Dr Muddassir Ahmed

Dr. Muddassir Ahmed, MEA Regional Planning Manager at Bridgestone EMEA. He is responsible for Managing Planning & Operations activities to support \$700 Million sales for Bridgestone Middle East & Africa (MEA) Region. He is also responsible for Strategic Sourcing and Supply Chain Strategic Projects in the MEA Region. Muddassir holds a PhD in Management Science from Lancaster University. He has considerable multi-site manufacturing experience in Electrical, Hydraulics, Automotive and Internet industries, and in deploying Continuous Improvement best practices in Europe, Middle East & Africa. Dr. Muddassir is also the founder of leading supply chain Blog scmdojo.com.



Matteo Boffa

Matteo Boffa is a young Swiss Entrepreneur and General Manager ETUIX - Luxury Recycling Products. He has experience of more than 9 years in the Private Banking Industry and more than 2 years as a Social Entrepreneur. He has set out to make a difference in the world. His vision to reduce the ecological footprint of humanity has led him to found Etuix and ensure its success. He considers himself to be a life-long student and is highly passionate about creating awareness of the harm that we do to the environment and finding solutions to repair the damage.



Prakash Rao

Mr. Prakash is Group Head of Supply Chain Projects & Process Excellence at Landmark Group. He has over 24 years of hands on experience spanning across every function in the Supply Chain, of which last 16 years has been with Landmark group. He holds an Engineering degree in Mechanical Engineering, and a Master's degree in Operations Management from University of Mumbai. He has worked in diverse industry verticals like Engineering, Consumer Durables, and FMCG & Retail. He is currently the group head of supply chain projects at Landmark group. At Landmark group, he has been responsible for the implementation of SAP R/3 – MM & PP Modules & SAP Advanced Planning & Optimizer (APO) - Supply Network Planning (SNP) Module, Oracle suite (Retek WMS & RMS), Web Enabled Supply Chain Portals and multiple supply chain applications. He is also the project lead for the implementation and commissioning of two Mega Automated Distribution Centers in UAE (JAFZA) and Riyadh.

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Proceedings

Track A1

Sustainability Research in the United Arab Emirates: A Bibliometric Analysis, 1998-2018

Shalini Ajayan

Lancaster University

Sreejith Balasubramanian

Middlesex University Dubai

Purpose: UAE has made significant efforts to improve sustainability in the last decades. It has built enablers which correspond to the sustainable development goals (SDGs) set out by the United Nations for 2030. The initiatives such as Dubai Integrated Energy Strategy 2030 to use alternative energy sources to drive energy decarbonisation and ensure efficient use of energy, Zayed Sustainability Award, Abu Dhabi Sustainability Week are examples of UAEs efforts to promote sustainability. UAE also plan to invest AED 600 billion by 2050 to meet the growing energy demand and ensure a sustainable growth for the country's economy. Research and Development is fundamental in driving these initiatives.

The aim of this research is to comprehend the United Arab Emirates (UAE) contribution towards sustainability research in the last 20 years (1998-2018) with regards to publication quantity, quality and collaboration. A comparative assessment with other Gulf Cooperation Council (GCC) countries is also undertaken to benchmark the progress of UAE.

Methodology/approach: Sustainability related studies published in Scopus-indexed journals during the period 1998-2018 was used assess the sustainability research of UAE and other GCC countries. Several indicators were identified from the literature to assess both quantity and quality of research articles. The quantity indicators used in this study include total publication count, Adjustment Index (AI), which is publication count adjusted for gross domestic product (GDP) per capita, relative growth rate (RGR), doubling time, and best fit trend projection. The quality indicators used include citation count, average citation per document per year, H-index, and proportion of articles cited. Finally, for assessing collaboration, the indicators used include proportion of articles co-authored both internally (within UAE) and externally (with authors outside UAE), collaboration index and modified collaboration index.

Findings: The results indicate a significant progress in sustainability research in the UAE in terms of both quantity, quality and collaboration. The best fit trend projection shows an exponential increase in sustainability research output in the UAE ($R^2=0.94$), second only to Saudi Arabia in terms of publication count. The results shows the impact of studies in terms of citation is increasing over the years. Also, the results indicate a significant increase in external collaboration, especially with UK.

Research Implications: The study is the first of its kind to assess UAE's contribution to sustainability research vis-à-vis other countries. Future researchers could adopt this mythological approach to study other key areas for UAE such as technology and innovation. Also, future studies can benchmark UAE's research progress in other disciplines both globally and regionally.

Practical Implications: Given that UAE's vision is to become one of the most sustainable countries by 2021, the results are timely and can be used to promote sustainability research in the UAE in line with the strategic direction of the country, and in becoming a regional leader in sustainability.

Challenges in Implementing Sustainable Business Practices in UAE: A Theoretical Perspective

Renu Shenoy

BITS

Sustainability has become the defining challenge in present scenario and companies have started to apprehend the rewards associated with it. Globalization has become the driving force and has been recognized to have an impact on the contemporary world, influencing business, environment, and society. Gone are the days where the idea of corporate sustainability meant little more than endeavouring to reduce the company's environmental impact, fulfilling the environmental regulations and being eco-efficient. Nevertheless, today organizations irrespective of the size, industry and sector perceive sustainability as a source of product and service innovation, a way of creating social responsibility and safeguarding the stakeholder relationships. Especially a study on the sustainability is a matter of need in a country like UAE, where the sustainability is the highlight in vision 2021 and their significant strategical efforts on achieving the Sustainability development goals put forward by United Nations General Assembly in 2015.

The purpose of this paper is to deliver an empirical study on the kind of challenges that may occur in the implementation of sustainability practices. The learning resorts to mixed methodology of exploratory research as there has not been much prior study on sustainability in the companies in UAE, a descriptive analysis to understand the various challenges the company face in implementing sustainable practices and a causal approach to discover any connection between middle management and a successful sustainability strategy. The secondary data is gathered from various sources such as company reports, articles and survey reports published in magazines, journals, academic institutes, media and the relevant sources of the companies and the primary data is collected and assessed through several ways including, person to person interview, focus group interview and through mails with the aid of structured and semi-structured questionnaire.

The overall use of mixed methodology (quantitative and qualitative) in the research is to create both a holis-

tic and in-depth understanding. The paper concludes by pointing out the challenges faced by the companies in UAE while implementing sustainable business practices. Now that since Corporate social responsibility has been made mandatory for all private sector companies in UAE as per the resolution passed in 2017, it is believed that a study on this topic will be a prospective and fruitful experience both on a theoretical and practical aspect. Also, the study will be instrumental in making the companies aware of the challenges they confront in performing sustainable business practices and will be helpful in creating an awareness on the importance of such initiatives to share their contribution in achieving the vision 2021 and will be helpful in laying a successful roadmap in achieving the sustainable development goals.

How Sustainable are the World's Most Sustainable Companies? A Critique of the Environmental Impact of Unilever and Nestlé, and their Approaches to Sustainability Reporting

Izdihar Alssrouri, Jeremy B Williams

MODUL University Dubai

In 2015, the Millennium Development Goals (MDGs) gave way to the Sustainable Development (SDGs) and, in the same year, 196 states around the world reached a consensus on climate change policy in the shape of the Paris Agreement. If a commitment to sustainable development was not on the corporate agenda previously, there is little excuse following these milestone events. Even the most recalcitrant of corporates now feel the pressure to be seen as 'clean and green' if – for no other reason – they want to reduce the risks associated with reputational damage should an episode of poor environment performance go viral on social media. The key question that remains, however, is the speed at which companies need to restructure their operations in order that these global sustainability-related goals are realised, and environmental catastrophe is avoided.

The answer to this question depends, of course, not on the laggards but the leaders; particularly large companies showing leadership because scale connotes impact, and that is when others start to take notice and follow suit. Hence the rationale for this paper which focuses on the sustainability efforts of Unilever and Nestlé; two of the largest fast-moving consumer goods (FMCG) companies in the world, and also routinely identified as sustainability leaders in global sustainability rankings such as those produced by Corporate Knights, Dow Jones Sustainability Indices (DJSI), and others.

The paper analyses the sustainability strategies of Unilever and Nestlé by assessing their reporting methodology against the Global Reporting Initiative (GRI) standard and by analysing the goals and targets they have set for addressing their environmental impact. The main findings are that while Nestlé is more compliant to the GRI reporting standard compared to Unilever, the latter outperforms Nestlé in terms of creating a well-defined and achievable sustainability strategy, as it has clearly defined goals and targets that are

appropriately measured and tracked. Moreover, Unilever's strategy and initiatives imply a genuine interest in becoming more sustainable. It was found that the goals and targets defined by Nestlé do not appear effective enough for it to fulfil its 2030 goal with respect to its environmental impact. It was also observed that the public's perception of Nestlé is an on-going problem because of the impact of its activities on water resources Nestlé's business ethics have been called into question due to its water bottling operations in the developing world; an issue it is yet to fully manage. In contrast, Unilever offers a non-FMCG alternative that does not deplete water resources.

In concluding, drawing on academic literature in the field of ecological economics (e.g. Daly 2014), these findings are appraised in the context of theoretical notions of 'sustainable enterprise' and optimal scale. This leads us to a crucial question; viz. notwithstanding their high sustainability rankings, can either company be considered truly sustainable, now or at some stage in the future? This is the most critical issue discussed in the paper because, in a post-Paris Agreement world, aiming to be 'less unsustainable' is no longer an option. We know this because of the weight of the evidence presented to us by the world's leading climate scientists (Pachauri & Meyer, 2014). In short, the existential threat to humanity and all other sentient beings is very real unless organisations do become truly sustainable by the end of the 2020s. Achieving such an objective requires radical change and the first step is for companies to understand the true meaning of sustainable enterprise so this can drive their sustainability agendas. Zero net impact has to be the goal, decoupling growth from natural resources. A stretch goal for a company is to become a restorative organisation by putting back more into the biosphere than it takes.

Value driven CSR: Towards a new model of Internal and External CSR

Shahira El Alfy, Roberta Fenech, Lawal Yesufu, Abdul Ghafar, Malini Nair

Higher Colleges of Technology

Purpose: The purpose of this research study is dual in that it aims to explore antecedents and outcomes of Internal Corporate Social Responsibility (ICSR) in the banking sector. The research is driven from one side by the increased calls questioning the fulfillment of banking sector to its economic and social obligations towards society. From another side, the need to address corporate social responsibility (CSR) in terms of internal and external CSR that require different CSR strategies, policies and activities rather than a one size fits all CSR approach adopted by the main stream research on CSR. Corporate social responsibility in the banking sector has received a lot of attention and interest. Following the economic crises of 2008, the banking sector is portrayed as upholding a controversial position being viewed as both in debt with society (Iannotta, Nocera, Sironi, 2013) and at the same time a key contributor to sustainable development (Shen, Wu, Chen and Fang, 2016). The banking sector has over the past years engaged in corporate social responsibility in efforts to restore good will and improve performance (Cornett, Erhemjamts and Tehranian,

2016). In studying Corporate Social Responsibility a distinction is drawn between ICSR and External Social Responsibility (ECSR). ICSR is defined as practices that relate to the physical and psychological working environment of employees, including the work–family relationship, work–life balance and equality of opportunities, some corporate governance practices, health and well-being of workers, their training and participation in the business (Vives, 2006; Turker, 2009). ECSR is defined as an active and voluntary contribution to improve social, economic and environmental factors and at the same time improve the competitive position and added value of the company (Cornelius, Todres, Janjuha-Jivraj, Woods, and Wallace (2008). Since ICSR is focused on internal stakeholders while ECSR is focused on various external stakeholders it is found important to explore both as separate constructs and uncover potential relationship that may potentially exist.

Methodology: This study adopts a qualitative approach, as the aim of the researchers is to dig deep into what motivates ICSR and the consequences of such practices. A thorough review of the literature and theoretical foundation underpinning CSR are conducted. Literature review and grounded theory resulted in a multifaceted model that draws from five main theories intertwined to form the theoretical framework to this model. The theories are the Social Identity theory, Social Exchange Theory, Self-Determination Theory, Stakeholder Theory and the Service Profit Chain theory.

Findings: The contribution of this research study is a model that brings together five main theories and draw together scattered literature on internal and external CSR . The dimensions in the multi-faceted model are: national culture; corporate culture; ICSR; employee engagement and ECSR. The associated hypothesis to the relationships in this model are developed and supported by previous research.

Research Implications: This study opens a path for further research that distinguishes between ICSR and ECSR and the various relationship dynamics that may exist. The study draws academic attention to explore outcomes of ICSR further, which have been overlooked in extant CSR literature.

Practical Implications: A practical implication of this study is to foster corporate cultures that generate ICSR, which benefits both the organization and society at large.

Track A2

Growth of UAE Islamic and Conventional Banking alongside Fintech Developments: An Empirical Analysis

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Purpose: This paper analyzes the growth of Islamic and conventional banks in UAE in terms of profitability. Further, the paper explores effects of financial technology integration on the growth of Islamic banking in the UAE.

Approach/Methodology: The analysis compares 7 financial and banking of 10 UAE-based Islamic and conventional banks, using descriptive statistics and T-tests on comparative historic trends. To support the analysis, a survey was performed to evaluate opinions of UAE residents regarding Islamic and conventional banking. To assess the impact of FinTech on Islamic and conventional banking, banks were split into high and low FinTech investing categories and compared using descriptive statistics.

Findings: It is evidenced that Islamic banks in UAE reflected higher growth potential than conventional banks from 2016 onwards, with the expanding demand for Sharia-compliant products. FinTech implementations, like loan automations, are more beneficial for Islamic banks since they have more scope for process improvements.

Implications: Promising growth of Islamic banking poses significant threat to conventional banks in the UAE, with expected shrinkage in their business due to increased demand for Sharia-compliant financial products. Meanwhile, the banking industry is expected to greatly benefit in cost-efficiency and profitability with relevant FinTech implementations. Islamic banks can gain higher cost-efficiencies through FinTech investments, with more scope of process improvements, due to the traditional Islamic banking model.

TRIZ Principles as an Innovation Aid to Design Thinking in the Context of Product Design Coursework

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Purpose: This paper discusses the inclusion process and results of TRIZ as a complementary design thinking tool, within the product design coursework to drive innovation. TRIZ is the Russian acronym for the

Theory of Inventive Problem Solving. Its inventor Genrich S. Altshuller created it from his extensive study of patents during his career as a clerk at the patents office. It can be seen therefore as a distillation of patent ideas resulting in forty inventive principles and a contradiction matrix. Its development and usage aided innovative solution in engineering in the USSR initially and world over later. Continued studies and application of TRIZ has established it as a design accelerator in several fields ranging from technology to management. The product design course discussed in this paper is taught as an interior design specialization course. The students normally use the concept driven, iterative conventional design thinking process to arrive at design of various products. They do this post identification of a design gap that requires intervention. While the conventional design thinking process is systematic in its approach, it can at times be a frustrating black box. Therefore the forty TRIZ design principles without the contradiction matrix were introduced to students and incorporated as a design tool. Students used it complementary to the conventional process to arrive at innovative solutions. This exercise was done for three consecutive years for three separate cohorts. The intention is to explore the possibilities of the usage of TRIZ principles in driving innovation in the product design course outcome. The paper discusses these outcomes along with the process.

Methodology/approach: The research is exploratory and qualitative. It is aimed at pedagogy building through enhancement of current practices.

Findings: The applicability of TRIZ is proven in many fields, especially those that are technology and innovation driven. However its application in product design classroom to address design conflicts is new. Introduction and usage of TRIZ principles empowered the students to deliver innovative solutions as outcomes within stipulated time. It was mainly observed that students used the TRIZ principles as a tool to arrive at innovative, sustainable and socially responsible solution to identified design gaps.

Research Implications: Inclusion of TRIZ within product design coursework adds to research on TRIZ as a tool aiding innovation. In the instances discussed here, the contradiction matrix of TRIZ was not used as it was not discipline specific to product design. Only the generic TRIZ principles were used. With further research and applications a discipline specific contradiction matrix can be created.

Practical Implications: While conventional design thinking is still much required in design of products, TRIZ adds the dimension required to think of the many appropriate possibilities within a framework. This leads to quick solutions minimizing frustrations. The current applicability was observed in the classroom for three batches. Post introduction of TRIZ, there was an increased systematization of approach as a general observation. The study however was exploratory and qualitative and could be further explored under controlled conditions and quantified.

Members' Perceptions of Diversity and its impact on Team Innovation and Performance: The moderating effects of Team Cultural Intelligence

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Purpose: The advent of globalization, immigration, and technological advancements have resulted in the workforce becoming increasingly diverse. Multiculturalism has always been the most important dimension of diversity in Western countries, including the EU nations, Australia and New Zealand, where there are a large number of international migrants with diverse cultural backgrounds (Shen et al., 2014). Multicultural teams (MCTs) are prominent structures within organizations today and understanding the effective functioning of its members is a vital concern for organizations worldwide (Adair, Hideg, & Spence, 2013). A critical challenge faced by members of MCTs is overcoming the barriers put forth by the underlying differences in cultural values. One school of thought talks about how cultural diversity can enable organizations to sustain competitive advantage by way of increased creativity, problem-solving, flexible adaptation to change, etc. (Cox & Blake, 1991). On the other hand, there is also evidence that team heterogeneity can result in conflict, discrimination, communication barriers, etc., which in turn can affect team members' performance. Though literature has established the positive and negative effects of team cultural diversity, very limited research exists on what are the conditions and mechanisms required for increasing the performance of MCTs (Roberge & van Dick, 2010). Moreover, little clarity exists in understanding the roles that specific personal and situational factors play in multicultural teams' performance (Eisenberg, et al., 2013). Our research contributes to these gaps by studying the conditions and factors under which diverse teams are more successful by minimizing the detrimental effects of diversity in a group as suggested by the social categorization theory (Tajfel, 1981). We propose that team members' positive perceptions about diversity will have a positive impact on team innovation and performance. Furthermore, we posit that team CQ will further strengthen this relationship as it enables team members to make sense of the diversity that exists around them.

Methodology/approach: Data will be collected using structured questionnaires from multicultural teams consisting of members and supervisors from diverse nationalities. Self-report measures will be used for measuring 'perceptions about diversity' and CQ of team members. Supervisor ratings will be used for measuring team innovation and performance. The hypotheses will be tested using SEM.

Research Implications: We contribute to two major streams of research viz. CQ and MCT performance. This study contributes to the team CQ research which is very less as compared to individual level CQ research (Ang et al. 2015). Furthermore, we contribute to research on MCTs by navigating away from the study of national cultural values but focusing on the impact of individual attitudes and capabilities of team members on the overall performance of the team.

Practical Implications: The success of MCTs is very critical and organizations need to make efforts to

channelize the diversity existing in MCTs to achieve superior organizational performance. Organizations need to work towards developing positive perceptions about diversity, both at the individual as well as organizational level amongst its employees through different HR practices and interventions. Furthermore, employees need to undergo CQ training, since it is such a critical factor for success in a multicultural environment.

Exploring the “Fuzzy Front End” of Open Innovation

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During the past two decades, Open Innovation (OI) scholars have focused on several aspects of the evolving Innovation Management research paradigm. Unfortunately, OI research often falls short of clarifying the origin and the heuristics that lead to new projects in the early stages of the innovation process. This study aims at exploring the under researched “fuzzy front end”. By drawing on findings from two related literature streams (i.e., User-Driven Innovation and R&D Globalization) and qualitative data, the study categorizes various front end approaches of technology-driven MNCs and SMEs based on strategic scope, depth, and complexity, as well as geography. The resulting framework provides for a more differentiated and sophisticated view at the front end of the innovation funnel.

Track A3

Success Factors and Pitfalls of Entrepreneurship in the UAE

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The business environment is constantly changing and practices based on data from the past may be less relevant in today's environment. With this in mind, the study provides a review of recent studies of the factors that positively and negatively impact entrepreneurship and develops a list of recommendations based on findings from the literature. As shown, there are key areas where business must go right in order to ensure success, including start-up planning, risk, human resource, and finance management, learning, and networking.

Motivation and Drivers for Sustainable Enterprise: Case Studies from the United Arab Emirates

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Purpose: To understand motivation and drivers for sustainable enterprise in the UAE.

Methodology/approach: Multiple case study approach is the base of this paper.

Findings: Personal commitment of the entrepreneurs and multi-stakeholder perspective can influence the establishment of sustainable enterprise.

Research Implications: This study aims at contributing to the body of research in the emerging area of sustainable enterprise.

Practical Implications: The results of this study can assist managers and policy makers in addressing the challenges related to the establishment of sustainable enterprise.

The goal of sustainable development, succinctly stated, is meeting the needs of current generation without jeopardizing the prospects of future generations meeting their needs. Discussions at an international level have been ongoing for more than three decades, but agreement over the Sustainable Development Goals (SDGs) in 2015 represents, perhaps, the most coordinated effort to date (United Nations, 2015; Geissdoerfer, 2018). The role of business in the achievement of the SDGs is very significant. Many new socially and environmentally responsible business models are emerging, and there is pressure for the existing organisations

to change their business models in order to become sustainable (Boons and Lüdeke-Freund, 2013; Bocken et al, 2014). However, the need for success stories, especially in the developing business environment, is a key enabler in order for others to understand the motivations for change and the defining characteristics of sustainable enterprise (Dentchev et al, 2016). The context of the UAE provides an interesting example of rapid uptake of a sustainability focus within the business environment (Asif, 2016). Support from government is a big factor in influencing behaviour but the smooth transition to more sustainable business model may require a more complex set of drivers (Schaltegger et al, 2015; Roome and Louche, 2016). This paper takes up this challenge and addresses two main research questions: (i) What motivates people to set up or transition to sustainable enterprise? (ii) How do companies set up or transition to sustainable enterprise?

A multiple case study approach is used based on observations and interviews. This research method is chosen mainly because of the exploratory nature of the research topic in the selected context (Eisenhardt and Graebner, 2007; Geissdoerfer, 2018). Four cases were selected for the analysis; Dgrade, Roots Bistro, Blssd and Neutral Fuels, all of which constitute examples of successful sustainable enterprise. Some secondary data is also used for the analysis including, for example, local regulations, media reports, company reports, and various government policy documents. The secondary data is structurally organized for the analysis. The interviews are transcribed and analyzed based on a thematic and narrative approach (Czarniawska, 2014; Bryman and Bell, 2015).

The preliminary results show that the motivation for employing sustainable business models diverse. The first mover advantage can play a big role, as the startup examples show. Support from government is another great incentive. Personal commitment of the employees and management is a necessary ingredient and can make the transition smoother. Collaboration between diverse stakeholders with a sustainability agenda is shown to be the common factor driving sustainable enterprise.

Building an empire away from home: A phenomenological insight into the experiences of female expat entrepreneurs living in the UAE

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Although research indicates a rise in the female workforce participation in the UAE, their involvement as business owners/entrepreneurs is relatively low. Studies of factors influencing female entrepreneurship in the UAE have focused on the perspective of female UAE nationals. This study aims to provide insight into how Female Expat Entrepreneurs (FEEs) report the influence of personality, obstacles and support in their career. An exploratory phenomenological study was conducted to assess the experiences of FEEs in the UAE. A semi structured interview was conducted with questions constructed around the aim of this study. Interpretative Phenomenological Analysis (IPA) was employed to analyse the data. Two super ordinate

themes were identified: 'Personality as an influencing factor for entrepreneurship' and 'Personal experiences as a motivating factor for entrepreneurship'. Various facets of personality and key events in the participants' lives, stood out as substantial in their journey towards entrepreneurship. These experiences, along with their personalities, motivated participants to become business owners. Most participants described their entrepreneurial experiences in the UAE as positive, attributing this to the country's empowering environment and value systems. Whilst the qualitative nature of this study does not permit generalizability, through sharing their experiences, participants in this research identified key features relevant to entrepreneurial careers. These results indicate that, for these participants, a shift into gender equality seems to be taking place. We anticipate that the results of this study will supplement the academic knowledge in this field and shed light on the reality experienced by FEEs in UAE.

Business Climate in the GCC Region: A Case Study

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Between 2002 and 2010, the GCC region realized an explosion in Foreign Direct Investment (FDI). In the first six years alone (2002-2008), the region experienced above 3800% growth in FDI. This outpaced both the developed and developing economies. This growth has been boosted by a sharp increase in oil prices post-2003. Following this period, the GCC countries; Kuwait, Bahrain, Oman, Saudi Arabia, Qatar, and the United Arab Emirates have noted dynamic economic activities. The shift has intensified her role in the region as trade partner and investor. Real GDP has been constantly growing coupled with the growth of the non-oil sector. Economic activities have also been boosted by present large fiscal and current account surpluses that have built both consumer and investor confidence in the region. However, this growth has been hampered by increased inflation in a region in which monetary policies aimed at controlling inflation is limited to exchange rates.

The overall macroeconomic backdrop currently has enabled the region to address some of the longstanding structural challenges such as reforming the labor industry and diversifying the oil-oriented economies. Globally, apart from developing as a pole of global economic growth, GCC and other OPEC countries have also greatly contributed to capital export in the global markets, second only to East Asia. GCC has, therefore, become part of a global debate on economic policy imbalances. GCC also provides hostage to a number of sovereign wealth funds which have led to several financial stability concerns. The significance of the GCC has also increased since it is one of the major blocs that has maintained a bilateral trade with the European Union. This has also improved her role as a trading partner in the region. GCC states also play a major role in the energy market being major producers, exporters, and usually avail spare capacity. The role of the bloc will become more pivotal due to the large oil and gas reserves and low costs in oil exploitation.

Track A4

The impact of Simulation Games on Learning in Higher Education: An Overview

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Background: Learning is a lifelong process that is meant to learn concepts and skills, and eventually the ability to apply what the learners learn to live outside classrooms (Aggarwal & Goodell, 2015). However, there has always been a debate regarding the right method of teaching that will ensure the right type of learning for the learners and will equip them with modern day tools to solve problems. Particularly, when teaching a subject from one stream such as marketing to learners in engineering stream, a series of factors, such as the language used, methods of teaching, pedagogical fit and the textbooks used, contribute to the success or failure of teaching a subject. In modern pedagogy, Information Technology (IT) is an important technological development in the wider society and increasingly shapes the nature of higher education (Beller & Or, 1998; Russow, 2003; Schutte, 1999).

Technology, in the form of high-speed internet access and smart mobile devices, is increasingly available and affordable for learners as well as online and blended programs have grown rapidly. Considerable research findings have demonstrated the value of simulations in motivating and engaging students and in developing their skills and competencies (Vos, 2015). Instructors/teachers are recognizing that online games can bring variety and enthusiasm to the classroom compared to traditional classroom lectures or case discussion methods. In short, simulation games have the potential to motivate and engage a new generation of learners best known as millennials; who are used to working and playing online as early as the age of one. This conceptual paper focuses on assessing the significance of simulation games in teaching International Business subjects and identifying the benefits of improved class interaction.

Methodology: The study was conducted on the final year business students studying International Business major in one of the colleges in the UAE, specifically on the learners studying Marketing Management. To make the class interactive and engaging, it was decided to subscribe for a simulation game called the CESIM SimBrand; this game develops learners understanding and command of the overall marketing decision-making process as well as covers several areas of marketing. A pre-analysis of the student grades was done by a class test on various topics of marketing. The learners were then divided into groups of 4 and were expected to work together for 6 weeks, each team would be in direct competition against the other student teams. During the 6 weeks, each team made strategic decisions regarding their company's core competencies. To encourage and enable unique strategy creation and execution, teams started their Cesim SimBrand companies' fresh without any operations history.

After the introduction of the simulation, the teams familiarized themselves with decision making via a practice round. The practice round results did not have any influence on the actual game results. The instructor

was just a facilitator throughout the process of the game and could decide on how many rounds the teams could play. The main objective for the teams was to maximize shareholder value and make a profit at the end of each round, this was measured by the share price. At the beginning of the game i.e. Week 1, the share prices remained the same for each team and it changed during the simulation in accordance with the teams' decision-making skills and success in the markets. Teams did not have the authority to issue new shares or repurchase existing shares in this simulation. In addition, the level of R&D and marketing communications, the riskiness of the team's market portfolio, and the team's decision-making track record over time had influence in the share price. The teams could operate in two markets namely; Europe and Asia both the markets were of different size and have different growth rates. The teams got the opportunity to handle four different customer segments in both markets – Households, High-end households, Companies and High-end companies. Each segment reacted differently to the marketing mix that consisted of price, product, advertising, channel investments, and after sales (Customer care) decisions. The team had to be conscious of their decisions since a wrong decision would bring down their share value in a specific market and that would lead to the team losing in that specific week.

The product used during the simulation game was a smartphone and the company was able to offer between one and six differentiated products in both markets. The team was able to decide whether their products will be sold in Europe, Asia, or in both the markets. The product offering in different markets did not enjoy the great difference, therefore, it was possible to eat up each other's share or demand at times. Another drawback in the simulation was that the team did not make any production decisions, it acquired all its products through contract manufacturing. The teams, however, could sell after sales services named as 'Customer care' where decisions regarding warranty, investments in repair quality, and the pricing of repairs can be made.

The teams made decisions regarding Product portfolio and these decisions were crucial for the team's success. Product decisions such as Product name, Market selection, Upgrade, Design (one design only), Features (one or more features), Compactness level, and Battery life level were available for the teams to make decisions. At any point, during the simulation, the team can have a maximum of 6 products in its portfolio. Products can be sold in Europe, Asia, or both. Decision making was round-based, and one decision-making period was typically regarded as one fiscal year.

Every round was scenario based and they were dynamic in nature. The team got one week to make and save their final decisions. Each team member could make changes to the decision however, the team leader was expected to submit the final changes and save it so that it reflects on the next week's scoreboard. Every week before the next round the instructor announced the winner of the previous round based on the market share of the team in different markets followed by a discussion on what could have gone wrong in the decision-making process. It was a great learning experience for the learners, and they could be seen very much focused and engrossed in discussions and reading through the scenarios carefully for the next round. The learners were enthusiastic and nervous at the same time since every time the leader board would change depending on the decisions they had made, this created a great learning experience in the classroom. The image below highlights the complete process a student goes through while participating in the simulation game.

Source:CESIM.com

Benefits of the game to the learners: The simulation is purely web-based, and it can be accessed from any computer that has an internet connection, therefore, there is no need to install any additional applications to play this game. This allows the learners to participate in their own time and pace, also they do not have to be restricted to a classroom time to make their final decisions. Another important advantage of the simulation is that each team member has her/his own account that enables them to make decisions and work on scenarios on their own and later combine the outcomes with the other team members on the [decision checklist] -page. The platform is user-friendly and allows the team members to chat with others while in a dilemma. The simulation game develops the overall knowledge of the learner and allows him/her to take ownership of his/her learning as well as enhance the decision-making skills. In other ways, the simulation game also allows the learners to participate in team building activity and this allows the learners to understand their stance in the team. It allows leadership opportunities and at times it was interesting to see that there are hidden leaders in the team.

Findings: It was a great opportunity to manage the simulation for 6 weeks of the class time and an amazing lesson to learn from the learners as to how they were keen to read more in order to make informed decisions. Another interesting finding was that different student teams emerged as leaders based on the decisions they had made. To check the influence of the simulation game on the student knowledge, learners were expected to write a final exam based on the simulation game played during the semester. 80% of the class had improved their grades in the subject compared to the pre-test conducted at the start of the semester. The remaining 20% achieved a passing grade in the subject, the reason could be that they did not get involved in the decision making neither tried to understand the decisions made by the team, therefore, it was difficult to explain the success or failure at different weeks. The use of simulation games in teaching International Business subjects is not very new however, it is still in developing phase in some parts of the world. The paper discussed the usage of simulation game called CESIM SIMBrand which supported the marketing lessons and made them innovative and a great learning experience for the learners. The learners were able to comprehend the scenario and make critical decisions about enhancing product features according to the market situations and gain better market value for their products in respective markets. The learners were able to work in a team and were also able to identify leadership and problem-solving skills of each other.

Relationship between attention deficit hyperactivity disorder and academic performance among primary school pupils in Katagum Metropolis Bauchi State Nigeria

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This research work was aimed at finding the relationship between Attention Deficit Hyperactivity Disorder, and academic performance among primary six pupils in Katagum Education Zone of Bauchi State Nigeria. The research is an empirical research where by a correlational research design was employed for the study, the population was 16629 primary 6 pupils in Katagum education zone of Bauchi state and a total sample of 126 pupils (87males, 39 females) were purposively selected using purposive sampling technique. The instrument used for the study was adapted ADHD diagnostic rating scale which has a reliability coefficient of .69 achievement test was also used and it has a reliability coefficient of .84. The data collected were analyzed using Pearson product moment correlation in SPSS statistical package computer programme. Analysis of the data revealed that there is significant relationship between inattention, impulsivity and academic performance in English, while there is insignificant relationship between hyperactivity and academic performance. At the same time the prevalence of attention deficit hyperactivity disorder was 13%. Based on the findings from the study it is recommended that, there should be adequate and regular reinforcement to the ADHD pupils, there is need for teachers, parents and counsellors to work hand in hand to improve the academic performance of ADHD pupils, there is a need for educational planners and curriculum developers to plan academic work that will be suitable for ADHD pupils etc.

Legitimizing Entrepreneurial University: The Concept of Creative University for Sustainability

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The success of Science and Technology progress is confirmed as long as it contributes to the advancement of knowledge based economy harnessing economic and social goals of development. The transition from industrial to knowledge-based society has been realized with the application of university research into use. The "entrepreneurial university" concept coined by Etzkowitz in 1998 carries out this mission with technology transfer and firm formation. However the innovation process is not necessarily linear; the daily problems of production may bring out the solutions by research. The entrepreneurial university involves "extension from ideas to practical activity, capitalizing knowledge, organizing new entities, and managing risks" (Etzkowitz, 2013). On the other hand, legitimacy of the third mission of universities had been in question by arguing the mission of a university and claiming that "academic capitalism" was not good for the sake of science and it would affect academic freedom. One can argue that divergence from teaching and

research roles may lead to getting under control of industry and hamper traditional commitment of universities to society in the form of open science. As the tensions about legitimacy have been historically raised, this conflict may be unconsciously embedded in individual, organizational and institutional dynamics of anti-entrepreneurial activity.

This theory based study frames the possible underlying tensions based on the paradigm of entrepreneurial university and how sustainability agenda in environmental (ecological) dimension can address these tensions in order to legitimize the entrepreneurial mission and leverage entrepreneurial activity oriented towards sustainable development. As a deliverable, a conceptual model of quadruple helix model is proposed and sample activities from Turkish universities are presented. Activities include infrastructure, formal training, lifelong learning, research centres, scientific projects, intellectual property, industry cooperation, student projects and theses, open science, concept events, entrepreneurship for sustainability, institutional memberships, awards, and scholarships. As a research implication, the conceptual discussion supports that being responsive to the global challenges of healthcare, water, energy, environment and food, the creative enterprises of the new economy will position principal researchers as knowledge brokers committed to advancing scientific and technological knowledge in the pursuit of innovative solutions to the world problems (Groen & Walsh, 2013; Kidwell, 2013).

As a managerial implication, in cooperation with the industry, Quadruple Helix Model leverages the outreach of university mission to a new level by articulating and realizing its role in the creative economy and society. Trencher, Yarime, McCormick, Doll, and Kraines (2014) identified "co-creation for sustainability" as this new role namely of "transformative universities" which hold the greatest potential to manifest societal and technological changes with the goal of realizing sustainable development in regional and societal sub-system contexts. The New Creative University, will be the one providing the setting for its members and stakeholders who can jointly identify, curate and co-create deliverables for realizing sustainable development goals. In order to possess this role, the Creative University will activate the scientists' alertness and dispositions for sustainable entrepreneurship by supporting them build mental frameworks for value-creation with education, spotting role models and fostering access to technology/market knowledge. In a broader sense of transformative role, the Creative University will balance the open science and commercialization roles without letting hamper each other.

Curricula for Sustainability in the MENA Region

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IMT Dubai

Based on prior and continuing research carried-out by the authors on various aspects of sustainability, including sustainable business models, sustainable learning and education, sustainable leadership and research, leading to a proposed course for sustainability, the current project described here set out to explore the state of the art in curricula for sustainability and sustainable development in the MENA region. Of great currency, the research, which entailed scrutiny of institutional web pages and course materials and interviews with faculty members in regional universities, was conducted primarily in 2019. Attempt was made to source the most recent literature as background for the project, with references from 2018 and 2019 included. Rationale for the project arises from published research highlighting the need for sustainability education and research that will inform curricular design, along with observation that many institutions in MENA and beyond are offering courses and developing programs in sustainability and sustainable development. Given these trends, the authors identified several key questions leading to this current study:

1. What is the “spread” or penetration of courses and programs in sustainability and sustainable development in MENA?
2. Are there certain types of institutions that are more likely to be offering courses and programs in sustainability and sustainable development; and / or where do such courses and programs reside in the institutions (discipline, department)?
3. What is the content and emphasis of existing courses and programs?
4. What measures are in place to evaluate the effectiveness of existing courses and programs?
5. Is there a regional character to courses and programs in sustainability and sustainable development unique to the region, or do they mirror what is happening in Europe, the United States, and elsewhere?

In addition to these questions, the authors were especially interested in determining “Just how sustainable are existing courses and programs in sustainability and sustainable development?”, and preliminary conclusions on this theme are shared. The major contribution of the study is a curriculum model deduced from analysis of existing courses and programs. This synthesis provides the fundamentals and essentials that appear common across courses and programs and identifies gaps and shortcomings in curricula. Not previously available, this information will permit program managers, course designers, and curriculum developers to assess and improve current offerings and compose courses and programs that meet or exceed best practice.

Finally, directions for further research are enumerated, including the need to assess the degree to which academic courses and programs meet the needs of industry and government, and a parallel project looking at sustainability and sustainable development in industry sectors in the region, including training and education to support initiatives.

Track B1

Market orientation and Corporate Social responsibility: Investigating missing links

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Purpose: The proposed research aims at expanding the understanding of the relationship dynamics between market orientation and corporate social responsibility. The majority of research corporate social responsibility (CSR) focus on outcomes of CSR in terms of quality, corporate image and purchase intentions (e.g. Gatti, Caruana & Snhhota 2012; Huang, Yin & Liu 2014), customer satisfaction and loyalty (Irshad, Rahim, Khan & Khan 2016; Gürlek, Düzgün, & Meydan Uygur 2017; Lee, 2019). CSR is studied in terms of having a mediating role between market orientation and corporate performance (e.g. Ben Brik, Rettab & Mellahi 2011; Long, 2015; Rashidin, Javid & Jian 2018). However, fewer articles addressed antecedents of CSR more specifically, the factors that may intervene between market orientation and corporate social responsibility, which may foster or possibly hinder CSR despite of an organization's market orientation. The proposed research is designed to study overlooked institutional factors including organizational reflexivity and firm innovativeness that may affect CSR. The research employs contingency theory, resource based theory and knowledge based theory as the theoretical foundation explaining suggested relationships among variables. The main research questions are as follows:

1. What is the current perceived market orientation and corporate social responsibility performance?
2. What is the relationship between perceived market orientation and corporate social responsibility?
3. What is the effect of organization reflectivity, if any, in the relationship between market orientation and corporate social responsibility
4. What is the effect of firm innovativeness, if any, on the relationship between market orientation and corporate social responsibility?

Methodology/approach: The proposed research adopts a quantitative approach in which a questionnaire is designed to collect data on level of market orientation of the organization understudy, corporate social responsibility performance to various stakeholders and level of organizational reflexivity that may possibly mediates the relationship between market orientation and corporate social responsibility. Data analysis would include descriptive statistics, correlation and multiple regression. Discuss the research methodology/ approach; e.g., exploratory, theory, empirical, qualitative.

Findings: Preliminary findings show that market orientation affects corporate social responsibility performance. However, the magnitude of influence on various stakeholders and the relationship dynamics are to be further investigated.

Research Implications: The research empirically tests a model in which other institutional variables that

may potentially play a role in MO-CSR relationship, are discussed and investigated.

Practical Implications: Findings are expected to reflect to management organization CSR performance and highlight the different elements of market orientation that affect the organizations CSR performance. The research is expected to guide managers on ways for enhancing CSR performance and draw managers attention to overlooked institutional variables that may further improve CSR performance.

The Impact of Corporate Social Responsibility (CSR) on Consumer Buying Behaviour in Pakistan

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This paper aims to report 'The Impact of Corporate Social Responsibility on Consumer Buying Behaviour in Pakistan.' The objective of this paper is to identify the primary antecedents which may impact consumers attitude towards CSR initiatives that will aid in determining a distinct relationship which exists between consumers purchase intentions and CSR practices. A quantitative approach was incorporated to collect data from 203 respondents. The constructs generated based on the data were validated through the inclusion of Structural Equation Model (SEM). It was found that CSR initiatives such as economic, legal and philanthropic responsibility do influence the purchase decisions of consumers in Pakistan while ethical responsibility does not.

The Role of Inequality and Political Stability for Sustainable Economic Growth: Analysis of South Asian Countries

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Purpose: To address the economic inequality is a multifaceted issue for almost all the nations along the globe. Even the recent economic growth of upper-middle income countries has not helped to lower the inequality of these nations, and the growth episodes of last two decades have not decreased the gap between

top and bottom. This lays a big question mark about the generalizability of the Kuznets hypothesis. In this study we focus on the role of inequality and political instability on economic growth, using a simple endogenous growth model including human capital as moderator in the south Asian region. The objective is to identify that how much the political stability and income inequality contribute or suppress the sustainable economic growth.

Methodology/approach: To address the aforementioned issue, we have used panel data of selected south Asian economies. For needful the pooled estimated generalized least square is applied in two steps: first, we estimate political stability model; and second, we use this estimated series of political stability in the estimation of equation growth model. to identify robustness and sustainability issue of growth, we used five different combinations of variables to model the growth. A detailed descriptive analysis is also a part of the study.

Findings: Our analysis suggests that the income inequality obstructs the socio-economic structure of the economy and political stability is crucial with economic growth to overcome the issue of differences between rich and poor. The results indicate that the human capital plays a regressive role in the nexus between inequality and political stability. However, inequality hampers growth: both directly and indirectly. The elasticity coefficients of growth to all the variables are very sensitive to the inclusion and exclusion of the control variables.

Research Implications: Our analysis suggests many direct and indirect linkages between the three main variables: Growth, inequality and Political stability. We can conclude that the South Asia economies which are considered to be next global growth generators have, however, paid the price of growth which they acclaimed for last two and half decades. Their human and social capital in the shape of inequality has been an alarming condition for future prospects.

Practical Implications: This analysis also suggests that the policy makers developing South Asia have to solve the economic puzzle of choices between slow growth leading fairer distribution and the fast growth with more inequality. Current inequality may impede future economic growth through the channels of political instability and restlessness. So, the policy mix in this regards should be deliberately used with well thought inclusive structure.

Girls of Rural Sundarbans

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Bangladesh is South-Asian densely populated developing nation that was independent in 1971. In the time since its independence, the country has advanced leaps and bounds empowering women in the society and challenging traditional norms. Women have been instrumental in farming industry and more recently the ready-made garment industry. Studies have focused heavily on the urbanization of women's work and rural achievements of tribal women. Little has been recorded on women and girls' contributions to rural life success, interaction with nature, and their own unique methods of solving daily trials. This exploratory study was taken up as an attempt to understand and record rural girls' lifestyle, livelihood, struggles, and solutions they have brought about in the community in and around the Sundarbans forest against stigmas and social discrimination. Where researchers, media, government and non-government agencies have focused on rural areas in terms of importance of biodiversity, pollution and such, little has been said or studied about how girls interact with the environment, changes, and challenges natural and man-made threats.

The area of focus is Mongla, Bangladesh which is famous for being the gateway to the UN Heritage Site Sundarbans Forest and being the second busiest port in the Bay of Bengal. The paper is a result of a field research conducted by the authors through an expedition funded by local foundation and international university that covered four villages around Sundarbans Forest in Bangladesh, with primary focus on Mongla Port. 150 girls and 50 boys from grades 7 – 12 were interviewed across four schools with permission from school management and respective guardians. Researchers first initiated contact with school, then proceeded to provide a guest talk, explaining the purpose of the research study and then recorded student responses on audio and video recorders. Questions pertained to record: daily life routine of girls, main source of livelihood and girls' contribution to the success of the livelihood, understand importance or existence of education for girls, fact-find challenges/threats faced by girls in the area, fact-find any solutions they have in place to fight such challenges/threats, find gaps that may be filled by technology that is readily available in developed world, particularly educational tools and record any outside aid they depend on to combat the challenges and threats.

Findings highlighted success of diminishing issues such as child marriage with zero such marriages recorded in the Mongla area in the last two years. Besides government ruling and police efforts, success was achieved through tremendous holistic support that girls in the communities received from other female class mates joining hands and standing up, to including boys in the classes who started local security clubs to award protection to girls, to heroic stories of teachers, headmasters and principals running from home to home with police putting a stop to such illegal practices.

The second highlighted issue of education was also recorded – majority of the girls in the four villages were highly motivated to pursue education, with zero input to family income where parents took up responsibility

of earning, with the success of the Export Processing Zone (EPZ) housing factories that created jobs and increased income levels. Especially girls from families where mothers had child marriages were more determined and had clear goals which did not include marriage, but included education.

The final significant finding pertained to the impact of the government's 'Digital Bangladesh' initiative. Almost every girl had access to a mobile phone with internet and social media. All four schools had ICT education, laptops, Internet connection and used ICT in teaching and learning, such as using YouTube videos, power point presentations and such. At this grass root level, the success of the Digital Bangladesh initiative not only provided a gateway for the communities to the global world of information, but also empowered the students, both female and male, in communicating with each other, with teachers and school management, increasing their awareness to the need to wait for the right age for marriage, not only for the family in legal terms, but also for the girl's health, education, stability, and future. The study has strong future scope, to conduct comparative expedition to other parts of rural Bangladesh to record level of success of fight against child marriage, increase education for girls and record infiltration and success of Digital Bangladesh.

Using Social Impact Bonds to Finance the Sustainable Development Goals in the Developing World: What Role for Government?

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Many governments around the world are experiencing major fiscal problems with global debt reaching an all-time high of USD247 trillion (IIF, 2018). With US interest rates starting to rise and global growth losing momentum, worries over credit risk are on the increase even in relation to developed countries. This trend makes it much harder for countries to pay off debts or respond to any upcoming recessions or financial crises. It also makes it difficult for governments to address socio-economic challenges, which are also on the rise.

What this means, therefore, is that now more than ever, any expenditure from the public purse has to be thoroughly justified, administered efficiently, and evaluated effectively to ensure an efficient return on investment while addressing social challenges. For many cash-strapped states and local governments, the competition for funding is intensifying as costs associated with social interventions are escalating as budgets are diminishing.

It was in this context that social impact investing (SII) first began to emerge in the early 2000s as an alternative model for the financing of projects aimed at resolving social problems in the UK and North America.

What SII does is provide innovative new methods that efficiently allocate public and private capital to address social needs of communities and nations with the explicit expectation of measurable social benefits and private financial return (OECD, 2015).

One model for implementing SII is through Social Impact Bonds (SIBs) (Ragin & Palandjan, 2013) which enables governments (or other payers) to shift the risk to private investors while promoting increased accountability with payment ultimately going to investors based on the achievement of predefined outcomes. The purpose of this paper is to explore and examine how governments in developing countries could play a more effective role in driving SIBs forward to help bridge the funding gap for vital social programs. The paper does not suggest that SIBs could replace the conventional model of government expenditure, but argues that with the right management – specifically in relation to the measurement and auditing of social outcomes – private capital will be attracted to these types of investment options, particularly if the SIBs are aligned with the UN Sustainable Development Goals (SDGs) and where international agencies can provide some third-party endorsement.

The paper concludes that SIBs provide opportunities to tackle a huge diversity of issues from increasing the number of educated girls in a village in Rajasthan, to managing adaptation to climate change at a national level. The challenge is that, despite the great potential of SIBs to address these issues, governments in the developing world are sometimes more of a hindrance than help. Thus, the role of the government is considered a critical success factor if SIBs are to become more widely used in the developing world. Sometimes this might mean staying out of the way altogether which can be a politically sensitive issue especially if experience of international agencies in the past (e.g. IMF structural adjustment programs) had negative consequences. However, with the right partners, and the right metrics to measure and evaluate social impact, the benefit to societal welfare is potentially enormous, especially if the narrative around SIBs becomes more positive because, typically, success will breed further success.

The research is exploratory and uses secondary data analysis in order to achieve its objectives. A mixed method of qualitative and quantitative is used where several numerical data are analyzed in addition to content analysis of peer reviewed journal articles focusing on social impact bonds. The main limitation of the research lies in the paucity of available data on SIBs in developing countries and in aligning SIBs with SDGs. This, of course, creates an opportunity for future research to be conducted in both fields.

Track B2

Blockchain for the Asset Management Industry

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Purpose: Asset management industry (such as hedge funds, mutual funds, portfolio management services etc.) is looking for avenues to cutting fund maintenance cost, optimize their processes and stay compliant with regulations. Blockchain provides a feasible solution to these requirements. This paper explores the operational / implementation aspects of enterprise blockchain technologies in asset management by highlighting how specific features provided by Enterprise blockchain, an enhancement to the traditional blockchain, will benefit all stakeholders in the industry.

Methodology/approach: This research uses a theory-driven approach by taking through the concepts of enterprise blockchain and explaining how each of them fit into the practical implementations in the industry. Technical, process, policy and social aspects of the implementation are being discussed. Enterprise Ethereum Alliance (EEA)'s Ethereum Architecture Stack is used to discuss the technical implementation of the framework.

Findings: There is a significant potential for the application of blockchain in the asset management industry in general and for mutual funds in particular. The architecture provided by EEA eases practical implementation and derives benefits to various stakeholders.

Research Implications: This paper brings together the existing body of knowledge and latest developments on enterprise blockchain and explains how these features give a value proposition for the asset management ecosystem from a practical implementation perspective thereby furthering our understanding on the subject.

Practical Implications: Stakeholders of the asset management industry (Regulators, Asset Management Companies, Registrars etc.) and other financial intermediaries will have to migrate their systems to the blockchain network sooner or later. When the entire financial eco-system moves to the blockchain, lazy laggards will be forced to migrating with technology flow sooner or later.

Silicon Skin Patch for Non-Invasive Heart-Attack Detection

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The Silent Heart Attack detector was invented by Akash Manoj in 2017. Silent Heart attacks, unlike conventional heart attacks - which have symptoms such as nausea, sudden shortness of breath, weakness, extreme chest pain amongst others - are asymptomatic or have extremely mild symptoms which are usually ignored, and even if they are paid attention to and the doctor suspects a heart attack, the patient has to undergo several tests which are time taking and expensive. A silent heart attack puts the patient at higher risk of having another attack which can be more fatal, increasing the risk of complications and may even lead to heart failure. According to a Harvard Medical School report in 2017, nearly 50% of the heart attacks are silent heart attacks. This device is a breakthrough invention that allows patients to detect a silent heart attack up to 6 hours in advance and get the medical attention required. The current methods are invasive, expensive and offer only post-care treatment.

Artificial intelligence, algorithmic innovation and the automation industry as empowering or endangering to the social sustainability of human healthcare and the medical profession? Comparing scientific and popular literature within medical anthropology.

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Purpose: Recent scientific and popular literature often depicts humanity at a crossroads between humanistic traditions and technological transformation based on artificial intelligence in nanotechnology, social robotics and the automation economy. The latter path is considered to change not only peoples' environment, but also their physical and psychological makeup. The key to this paradigm shift in conceptualising human qualities is the processing power of machine algorithms which is set to overtake even qualities hitherto considered uniquely human such as creativity, emotions or social interactions. One shorthand explanation is that algorithms do not need to be like humans if they can just outperform humans in their traditional domains. These thoughts have been developed popularly in recent historical, political, philosophical, cultural and social science bestsellers such as Yuval Noah Harari's 21 Lessons for the 21st Century (2018) and Homo Deus (2016), or in popular literary fiction such as Dan Brown's novel Origin (2017). This paper analyses them in the context of recent scholarly writings on artificial intelligence, nanotechnology, social robotics and the automation economy, as to whether such development signals a deplorable human obsolescence or a historical and developmental opportunity.

Methodology/approach: This paper examines writings on three levels: 1) popular prose accessible in recent bestsellers addressing the relationship between humans and computers, 2) academic literature on the level of popular science, including social sciences not specialised in medical fields, such as in general anthropology, history, politics and philosophy, and 3) specialised literature on medical anthropology and human healthcare. All writings and authors share concerns about the potential and prospects of artificial intelligence for human welfare, especially the threat of obsolescence for human healthcare professions. Hence this research is a multidisciplinary and comparative analysis of literary voices at the intersections of medicine, healthcare, medical anthropology, general anthropology, artificial intelligence, automation economy, social sciences, and philosophy. The field of medical anthropology provides a suitable framework for a multidisciplinary investigation of the implications of interactions between humans and machines across literary types, and with a focus on human healthcare.

Findings: The literature voices of popular science conceptualise artificial intelligence based on advanced algorithms and used on a wide social scale mostly as a black-and-white, zero-sum game and scenario. Humans are seen to be largely on the losing, and machines on the winning side. The only exceptions and allowances are made for those humans, for instance doctors and healthcare givers, who actively seek to improve their qualifications by serving artificial intelligence so as to serve their patients. Even writers who successfully straddle the scientific and popular realms seem to succumb to technological pessimism.

This technological pessimism seems reflected in some forms of popular entertainment, as in movies about machines taking control of the world. By contrast, bestselling novels tend to end on more optimistic outlooks. The specialised medical, anthropological and healthcare literature seems most at ease with artificial intelligence, automated potential and algorithmic power, predicting man-machine interaction to be ever more efficient on part of the latter and beneficial for the former.

Yet it is the socioeconomic literature on the automation economy that seems conceptually and practically most comfortable with artificial intelligence, from social robotics to nanotechnology, especially by advocating the facilitation of human labour. The specialised literature at the interface of healthcare and artificial intelligence suggests future research on human-machine interactions, or people's reactions to forms of medical care-giving that are delivered in automated form yet efficient in results.

Research Implications: Common objections against the use of artificial intelligence in human healthcare are that it lacks some of the qualities considered uniquely human, such as creativity, and have potentially disastrous results such as system-wide programming or processing mistakes. Yet part of the literature turns that objection around: lacking human individuality lets AI doctors outperform humans on average, long-term, and with increasing number of patients, due to their interconnected, accumulated algorithmic power, and their lack of human or emotional fallibility. Specifically, Big Data could analyse, understand, and thus advise human bodies, health and needs much better than humans themselves.

Practical Implications: One practical implication at the intersection of healthcare and work is that this non-human capacity is superior and thus advantageous for humanity, and ultimately lead to the complete

democratisation of human healthcare, so that an ever-increasing workplace automation in healthcare is not just advantageous, but should rationally be pursued for the sake of humanity: For the then-redundant doctors, there are however some positive perspectives that would only require, but also allow them to qualify themselves further professionally, and therefore be also more demanded and remunerated.

The role of eWOM (electronic word of mouth) in the purchase behaviour of experience and search products

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Multichannel shopping offering choice and convenience to the consumers. The advances in the Internet technology has made consumers share and exchange consumption-related information through online consumer reviews. eWOM is becoming a major source of information for potential buyers to make informed purchase decisions. eWOM communication in online consumer opinion platform represents new and important e-marketing phenomenon, it triggers additional theorizing and empirical investigation aimed at better understanding of eWOM communication in social media.

Purpose: The purpose of the research is to identify and evaluate the influence of eWOM on the purchase behaviour of experience and search products i.e. apparel and vacations, to draw noticeable recommendations for the theory and practice.

Methodology/approach: Questionnaire survey through interviews from undergraduate and post graduate students from educational institutions of Pakistan who have experience in shopping online, serves as the respondents to a paper and pencil survey.

Findings: The research is in progress. The empirical results will be derived from the testing of hypotheses to illustrate the impact of determinants of eWOM on purchase behaviour.

Research Implications: The main contribution of the study is to fill the gap from previous studies. Volume, valence and rating of message, perceived trustworthiness and types of platform of source on the credibility of eWOM for search and experience products will provide guideline for future research in different areas of eWOM.

Practical Implications: Social media marketing managers can benefit from the research results to design products/services, understand better and effectively serving their customers of experience and search products/services.

The impact of Internet things on accounting

Dr. Nabil Abd Elraouf Ebrahim

These are many online accounting packages and tools that focus on small and medium businesses, and now it's no longer just clouds with Internet things taking over. Banks and salaries provided data directly into the system, sales representatives create invoices directly from their iPhones, invoices are entered directly from iPhones by people who buy goods, like Xero, the calculations are surprisingly accurate without any input from the accountant, SMEs are now asking for advice that not only sets the time of commitment but also helps them shape their business for the future. Accountants and service providers in all professions need to find new ways to be part of the new service-driven world. Internet of Things, known as Internet of Things (IoT), is a network of physical devices, vehicles, home appliances and other components embedded with electronic devices, computers, sensors, engines and communication that enable these devices to communicate and share data that is uniquely defined by a computer capable of on the interaction within the current infrastructure of the Internet.

Purpose: Provide Suggestions for the development of the accounting system and presentation of financial statements, what are the advantages and benefits of this new system for accountants?

1. No audits-ever
2. Optimizes costs—and time
3. Track assets and inventory
4. Optimize performance—and satisfaction
5. Provide more accurate quotes
6. Keep employees healthier

Methodology: The study uses the extrapolation and Conclusion method and the statistical analysis of data through SPSS.

Findings: The results of the researcher will be explained by testing the hypotheses and commenting on them. The researcher assumes that this (IoT) will not affect the applied accounting system.

Research Implications: This research is concerned with the actual development of pricing systems for inventory and presentation of financial statements.

Practical Implications: The direct impact of the research subject depends on the development of all shops based on the Internet in the recording of accounting and issuance of invoices for sale and collection through the payments of visa automatically.

Track B3

Quantitative Study of Contemporary Service Customer in the Sultanate of Oman

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The changes in global consumer, retail, and supply markets over last few decades are threatening the established business models. Companies with disruptive innovative approaches in delivering service are leading these changes and also are anticipating new opportunities. This has given rise to new value networks in the service industry. The environmental factors play an important role as critical component in this new value network. This paper is an attempt to explore expectations of new age environmentally sensitive service customers. The findings will explore the impact of different environmental friendly initiatives on customer's attitudes. This study fills an important gap as no researches have looked at this relationship, in relation to Omani service sector. Other service sector researches have been concentrating on enhancing the service quality variables, but there are no researches attempting to establish a relationship between environmental friendly initiatives and customer attitude. Adapting a quantitative research approach, data is collected from 500 Oman based service customers. This study contributes for creating understanding of consumer attitude towards environmental friendly initiatives being managed by different brands.

Technology and Innovation for Sustainability: Evaluating the Effectiveness of Crowdfunding Platforms for Social Impact Investment

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The purpose of this paper is to compare the effectiveness and function of social impact investment (SII) platforms that focus on the United Nations Sustainable Development Goal 7; viz. to ensure access to affordable, reliable, sustainable and modern energy for all. The planet is under increasing pressure to supply enough energy for the burgeoning global population, forecast to reach around 9 billion by the middle of the century. In the developing world, people often utilise fuels that are highly polluting. With the population of Sub Saharan Africa set to rise by at least 500 million within a generation, this problem is amongst the most pressing we face (UN DESA, 2017). This research discussed in this paper is important because it assesses the effectiveness of different forms of investment to address this challenge. Energy poverty is a critical issue for 1.2 billion people in remote communities around the world (Baurzhan & Jenkins, 2016). To meet basic needs (e.g. cooking, lighting) kerosene and diesel are commonly used (Jones, 2017). According to the World Health Organization, approximately 4 million people each year die prematurely from illness attributa-

ble to the household air pollution caused by the inefficient use of solid fuels for cooking (WHO, 2018).

This paper focuses on a number of case studies, although special attention is given to Trine, a Swedish company with geographical scope in Kenya, Tanzania, Uganda, Zambia and Senegal; and Sun Exchange, which operates out of South Africa. Both companies seek to fund solar energy initiatives in continental Africa through individual investors via crowdfunding platforms. Both companies have an easy-to-navigate web interface to make investing very easy, and low minimum investments make it very accessible for most budgets. There are risks like any investment, but ROI is very competitive (between 5-12%), and certainly a lot better than cash left in the bank. Of equal importance, they offer investors the opportunity to do some good with their money.

The paper also outlines the relative merits of their different approaches (e.g. Sun Exchange accepts transactions using bitcoin), along with a discussion about opportunities for scaling up their activities, possibly in conjunction with larger institutional investors, but also with smaller, start-up organisations with which there are obvious synergies in terms of commitment to sustainable enterprise. One such example is Carb-in, a Dubai-based start-up that has developed a smartphone app that allows people to offset their carbon emissions by investing in solar projects financed by the likes of Trine and Sun Exchange.

The paper concludes with a discussion on how Dubai is well positioned to encourage the development of sustainable enterprise, especially with the eyes of the world on Dubai in the lead-up to World Expo in 2020, and the strong emphasis on sustainability as one of its central themes. In addition, there is the Dubai Plan 2021 to be 'A Smart and Sustainable City'. Initiatives such as these can be important enablers for Dubai to be recognised as regional capital for the emerging green economy. Other initiatives already in place include the Dubai Declaration on Sustainable Finance launched in 2016 and, in the same year, Dubai Electricity and Water Authority (DEWA) launched the AED100bn (USD27bn) Dubai Green Fund to finance investments in green projects, including renewable energy schemes and energy efficiency initiatives (DWTC, 2018).

The main implication to emerge from the paper is that social impact investment – although still very much in its infancy – has a lot to offer, and if Dubai (and the UAE more broadly) is serious about promoting its sustainability credentials, it might benefit from incentivising companies like Trine, Sun Exchange and Carb-in to set up operations in the city.

Towards a Consumer-Oriented Conceptual Model for E-commerce Sustainability

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Purpose: E-commerce retail sales vis-à-vis Brick & Mortar is on the rise. E-commerce retailers claim a reduced carbon footprint, though there are contrasting claims about its sustainability impact. For instance, proponents supporting E-commerce claim of reduced environmental footprint such as through reduction in transport for last mile delivery, less storage and inventory through omnichannel fulfillment and increased efficiency through the use of third-party logistics service providers (3PL's), while opponents criticize E-commerce for their increased environmental footprint because of the need for faster shipping such as same day delivery, and the need for multiple deliveries for the same customer because of the multi-item orders. Amidst the contrasting views, the aim of this paper is to develop a consumer-oriented conceptual model to assess the consumer attitudes and perceptions towards the sustainability factors of E-commerce retailers and its impact on their intention to use E-commerce channels.

Methodology: An exhaustive review and synthesis of existing literature was conducted to first delineate the potential sustainability factors of E-commerce, and then using the Technology Acceptance Model (TAM) and Theory of Reasoned Action (TRA) as the theoretical basis, a conceptual model was developed to capture the complex relationships between the sustainability factors and intention to use E-commerce channels.

Findings: The conceptual model proposed to examine the behavioral intention to use E-commerce channels include sustainability constructs relating to access (technology), convenience (anytime and anywhere), external factors such as packaging, last mile delivery, returns and omnichannel, and the subjective norms and normative beliefs of consumers towards sustainability. Moderating impact of demographic factors namely, age, education and gender are also proposed in the model. Multiple hypotheses are framed from the model to examine the impact of antecedents, and mediators on the consumers' behavioral intention to use E-commerce channels.

Research Implications: The study extends the use of Technology Acceptance Model (TAM) and Theory of Reasoned Action (TRA) to develop an E-commerce model to assess the impact of sustainability factors on the customers' behavioral intention to use E-commerce channels. The proposed framework is novel, and significantly adds to the E-commerce and sustainability literature. Further empirical studies can test the proposed conceptual framework and hypothesis.

Practical Implications: This study is expected to enhance the practitioners understanding on whether sustainability factors influence the consumer intention to use of the E-commerce channels. The understanding on the importance given by consumers on sustainability can influence corporate strategies on sustainability and on how they market their products through E-commerce channels. It also gives practitioners insights on incorporating and prioritizing consumer needs on product, technology, access, convenience, and value, within the realm of sustainability.

Effective Go to market strategy for Consumer-Packaged Goods in BoP market in South Africa

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Organizations are facing constant pressure to report organic growth through improved market share and earnings in such intensely competitive environment due to modern retailing areas becoming saturated and the growing intensity of retail competition in urban regions. To achieve corporate objectives, organisations have to explore unconventional and alternative markets in what has been aptly described as the Bottom of the Pyramid (BoP), (Van Themaat, Schutte, Lutters and Kennon, 2013). Traditional distribution systems designed to serve the modern trade/Top of the Pyramid (ToP), that balances customer service and distribution costs are consistent with BOP supply chain needs. The field of supply chain management (SCM) is continuously changing, as the competitiveness of organizations is dependent on their capability to produce and provide customized products and services fast and efficiently around the world (Hallordsson, Kotzab, Mikkola and Larsen, 2007).

In search of growth, big retailers are migrating into townships hence redefining how business is conducted in that environment. From this, it stands to the reason that an SME retailer and manufacturer alliance to counter the growth of big retailers would be a potentially lucrative one. However, historically the BoP has been served by SME and SMME retailers wherein businesses have relied on channel intermediaries to provide the last mile connectivity and reach retail outlets unlike the supermarket-hypermarket format typically served via direct store deliveries by the manufacturer. Drawing from Teece (2010) it is possible to come up with a business model that addresses how a business creates and delivers value to customers and derives economic value. It also outlines the architecture of revenues, costs and profits associated with the business enterprise delivering that value. A business model is a rationale, or framework consisting of three cardinal components: value proposition, value creation and profit equation (Yunus, Moingeon and Lehmann-Ortega, 2010).

In order to develop a high-performance, go-to-market strategy that is defined as “a game plan for reaching and serving the right customers in the right markets, through the right channels, with the right products and the right value proposition” (Friedman, 2002). Friedman (2002) expounds that you have to reach the right

markets, align with the behaviours and needs of customers in those markets, choose sales channels that meet the needs of your business, have the right product offering and value propositions for those channels, and bring it all together into an integrated, multichannel model. This paper investigates the challenges and enablers for an effective Go to market strategy to serve Bottom of the Pyramid (BoP) markets for Consumer-Packaged Goods (CPG) in South Africa and how to navigate institutional and infrastructural voids in that trading environment. With the objective being to map out these enablers and challenges, Billou's 4As Model is employed that provides a way to critically examine and evaluate the application of successful innovation practices for last mile distribution. The research was based on the qualitative evaluation of multi-national and domestic CPG organisations serving the BOP market in South Africa. The key finding was that the successful organisations with effective reach, understood the requirements of the BoP consumer in regard to operating environment, the areas they live in and purchase behaviour matching income to pack format. The application of frugal engineering adds value to product offerings such as optimising pack format and packaging type whilst retaining product quality and intrinsic, and optimising cost to access and serve. Senior executives of a number of these organizations were interviewed and the findings were collated and analysed to create a picture of success translating to a distribution model that outlines how organizations go to market. A best practice case was then developed that describes an effective and efficient way to overcome the distribution problems in the BOP.

Smart Detector—A mobile application built on top of NEM blockchain to prevent counterfeit medicines

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This research mainly focuses on the uses of blockchain technology in pharmaceutical products to help in preventing counterfeit medicines in the current market situation. Current Scenario in the healthcare system is inefficient without blockchain, there is no trust between parties. We have designed a 'Smart Detector', an application that uses blockchain and brings the transparency and traceability of medicines to the patient. Our product covers four entity in the blockchain system, which are Doctors, Pharmacist, Logistics, Patient. The doctor has searched for a particular medicine in a local pharmacy and then place an order through our application. The transaction is appended to the blockchain. A Pharmacist working with the pharmacy uses the second module of the application to receive the order and scan the QR Code on each medicine. add the destination of the purchased medicine and also select a well-rated logistics that is registered to the blockchain system, Once the delivery is created the doctor receive notifications on the QR codes of the packages to expect and the Logistics company will receive notifications to pick the package from the pharmacy. The third module is where the delivery person logs in to the blockchain and accept the delivery request from the Pharmacist and then transport the medicine in a box with temperature Sensor that raises the alarm that

is stored in the blockchain to check the temperature goes out of the range. Once the medicine reaches the doctor, the doctor uses the application to scan the medicine to confirm if they are original product and there were no irregularities in the temperature during the transportation of the medicine and also scan the invoice from the delivery person app to send 'XEM' Nem crypto currency to the pharmacy and finally give rating to the carrier person. The Smart assets 'Mosaic' created by the pharmacy is subtracted and added to the doctors account in the New Nano Wallet. Since everyone in the network does transaction frequently their prove of importance 'POI' is updated which gives more chances of harvesting for the members of the network.

Track B4

Developing ethical managers: contrasting possible aims of ethics education with accreditation standards related to undergraduate business programmes

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Purpose: According to the academic literature educational programmes may achieve ethical development of students by focusing on four components: ethical sensitivity, moral reasoning, moral motivation and moral implementation (the Four Component Model). These components are related to each other and an integrated approach is recommended to achieve them, combining various teaching and learning methods. Academic institutions offering business and management programmes seek approval of various accrediting bodies as a sign of their excellence, and design and deliver the programmes according to their expectations and requirements: the accreditation standards. This paper intends to explore how accreditation standards related to undergraduate business programmes support the achievement of the Four Component Model: what is expected by accrediting bodies in relationship with ethical development.

Methodology/approach: Following the summary of the academic literature on the Four Component Model and the recommended integrated approach, qualitative text analysis was used to interpret the content of selected accreditation standards related to undergraduate business programmes, focusing on the intentions and implications of accrediting bodies regarding ethical development of the students. Since the accrediting body in the United Arab Emirates (CAA) refers to international norms with regard to the content of undergraduate programmes, the standards of American (AACSB and ACBSP) and European (QAA and EFMD) accrediting bodies of business and management programmes were analyzed.

Findings: Preliminary findings show that accreditation standards regard ethical issues as one of the core elements of undergraduate business programmes. Business ethics is mostly listed as a “knowledge” element by the accrediting bodies. Undergraduate business curricula are expected to provide the students with a learning experience enabling them to recognize ethical issues and to address them, which are related to the components of sensitivity and reasoning. The standards of each accrediting bodies contain explicit requirement of covering the area, but the details of the requirement vary among the accreditors. Indirectly, however, the accrediting standards also refer to ethical development of the students as an expected aim of the undergraduate programme or institutional operations. The approaches of the accrediting bodies to ethical development are different, but all of them has expectations which are linked with the moral motivation and implementation components of the Four Component Model. The paper concludes with recommendations for higher education institutions, accrediting bodies and policymakers about the articulation of expectations with regard to ethical development of business and management students.

Research Implications: Academic literature on the Four Component Model in business and management

education is rare and not addressing the aspects of accreditation requirements. This paper intends to contribute to academic thinking about development of ethical managers by analyzing and comparing related expectations of accrediting bodies. Such analysis can support further studies in the area, focusing on institutional good practices or pedagogic issues.

Practical Implications: The paper would support further development of accreditation standards and their interpretation concerning ethics education at undergraduate level business and management programmes. It also supports cooperation of higher education institutions, accrediting bodies and policymakers in the articulation of expectations with regard to ethical development of business and management students.

Professional Development Plans for Non-Teaching Staff: Their Role and Participation in the Academic Environment.

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A knowledge-based economy, exponential changes in technology, increasing number of diverse students, call for innovativeness and community engagement, stiffer competition and demands for accountability puts enormous demands in institutions of higher education. The nonteaching had taken peripheral roles in the past to support the accomplishment of institutional goals in higher education. However, with the challenges of the 21st century the non-teaching staff faces new challenging roles to support the faculty, the institution and its stakeholders. Identifying training needs as part of the professional development program of an institution of higher learning is a vital element of its sustainability. To ensure its sustainability, professional development programs must focus and benefit the institution, and includes both teaching and non-teaching staff. Nonteaching staffs plays vital role in the academic environment because they are in the technical and support side of the educational institution. It is very important that nonteaching staffs should also be knowledgeable with their role and participation in the process. It is necessary that they must be a recipient of trainings, seminars, workshops, lectures and other professional development activities that will enhance their knowledge, skills and abilities.

By identifying their training needs, this will encourage a good working environment for nonteaching staff

because their value and important was given the importance. Nonteaching and teaching staffs are interrelated/interdependent on each one and they have different goal but one mission. This mission helps them to work independently while working towards the success of the institution. Teaching staffs are the one conducting the lectures and classes for the students while nonteaching staffs are there to support and assist them. Not all the time the teacher is around to give piece of advice or support nor assistance but nonteaching staffs are there when they need them the most. Based from our research study it is empirical that nonteaching staff should plays active role in the academic environment as they play major role in the academic process. This will give added value to the academic institution if the wants and needs of the students are provided for them. Overall, this will create a sustainable working environment and sound academic work-life balance for everyone.

The impact of nationalisation policies on the design of HR Information Systems; A conceptual study.

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Purpose: The objective of this paper is to examine the effect of nationalisation policies on the design of human resource information systems (HRIS) among Gulf Cooperative Council (GCC) member states. In the last three decades, middle eastern countries have recognised that their economies were over reliant on expatriate labour which could adversely impact the long-term socio-political, economic and cultural climate of each of the affected countries. The GCC member states have each started the process of nationalising their workforce. Human resource management information systems (HRIS) is the integration databases, programmed computer logic, software and hardware, applied in the collection, management, transmission and manipulation in the management of human resource data. To ensure the success of nationalisation, human resource managers need to have the ability to adhere to the GCC governments' regulations on nationalisation as well the organisational policies on human resource management (HRM). HRIS applications enable the operational management of HR data, information management as well as the strategic management of knowledge in the execution of nationalisation and HR policies. The design of any information system is the most fundamental step in the system development life cycle (SDLC), the design phase includes business design, the point at which business rules and business requirements are defined. This study investigated the challenges and outcome of defining business rules and business requirements within the context of nationalisation. Also, the study was aimed at identifying the gaps between nationalisation policies and the functionality designed into enterprise resource planning (ERP) applications and finally to determine if HRIS could operationally function with two tiers of employees within the same application; GCC nationals and non-nationals.

Methodology/approach: The article includes a critical review of the theoretical literature in the areas of nationalisation in the GCC, HRIS and SDLC. Document and systems analysis were executed on design documents of HRIS applications, business requirement documents, system design documents for HRIS applications and nationalisation regulations and policies. Gap analysis was applied to determine the gaps between the business rules built into HRIS application and the nationalisation policies. In addition, the analysis was aimed at identifying gaps between the HRIS applications and business rules in managing nationalisation.

Findings: The results of the analysis is used to support the development of a conceptual model and propositions for further empirical studies on the subject. The findings indicate that there is a gap in the functionality of existing HRIS applications and the business rules extrapolated from nationalisation policies. Second, existing HRIS applications are unable to manage both nationalisation policies for citizens and HR policies for non-citizens within the same application. Third, the to fully implement nationalisation policies into an HRIS system two set of business rules must simultaneously be designed into HRIS to cater for the difference in HR policies for GCC nationals and non-nationals.

Research Implications: Existing research has focused on the implementation of HRIS applications. There have been very few research that investigated the design process in HRIS application and even fewer have investigated the business design phase in the SDLC. Considering that design errors and gaps in the business design will carry on through the entire SDLC, the business design is the most fundamental phase in system implementation. The finding of the study encourage further empirical research into the experiences of business analyst and project managers in the inclusion of nationalisation policies in the design of HRIS applications.

Practical Implications: HRIS applications enable HR managers operations and strategic management of employees data, national and organisational policies. The findings in this study would enable the creation of clear business and systems design that would enable the creation of two-tier HRIS to manage nationalisation policies relating GCC nationals and HR policies relating to nationals and non-nationals.

The Role of Organizational Learning in Creating Agile Workforce

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Small and medium-sized enterprises (SMEs) are considered the engines of any nations' economy. Today's business environment is better described by being volatile, uncertain, complex and ambiguous. Smaller companies are faced with many challenges in the light of the rapid changes in technology, skills shortages, and business competition. Dubai is characterized by its fast-paced economy with its ruler's vision of building a smart city that is to be a hub for innovative SMEs by 2020. Hence, SMEs are suggested to adopt a new innovative management paradigm to be able to compete in this turbulent business environment.

Becoming an agile enterprise is considered as a route to innovate and to gain a competitive advantage. Workforce agility is deemed one of the organizational agility drivers; yet, most of the research studies deal with a topic from a best-practice Human Resources (HR) bundling approach irrespective of the contextual factors that might impact organizational strategies. Additionally, workforce agility has been analyzed from a descriptive behavioral perspective rather than a developmental perspective. Therefore, this present study aims to make a contribution to the literature by investigating the role of organizational learning as a contributor to the development of an innovative and agile workforce in Dubai.

The present study adopts a qualitative multiple-case study design by interviewing seven SMEs across different industries in Dubai, namely maintenance, digital services, security, retail, insurance, and technology. The interviews have been conducted face-to-face with HR managers of those firms in Dubai. Additionally, workforce agility characteristics such as innovative management skills, business intelligence, cross-functional competencies, and collaborative culture have been analyzed with organizational learning practices and their roles in enhancing the previously mentioned characteristics.

Based on the data collection and analysis conducted in this research project, the study concludes that organizational learning has a significant role in innovation and the creation of an agile workforce. However, it needs to be integrated with other HR practices such as reward systems to achieve maximum efficiency. Also, SMEs in Dubai were found to rely on classroom-based training and on-the-job coaching to equip their staff with the needed skills and knowledge. Thus, the present research recommends the involved companies to give more attention to online-learning solutions, informal learning such as the use of e-books, videos, job aids as well as leadership development programs to facilitate workforce agility with minimal cost.

Investigating the role of employees training and engagement in innovative work behaviors

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Higher Colleges of Technology

Purpose: Due to a rapidly changing business environment, employees innovative behaviors at all levels have become a necessity for organizational agility. The research examine an institutional factor that needs budget allocation within a business reality demanding efficient allocation of resources. Despite the numerous studies conducted on drivers of employee innovative behaviors at the, training has gained marginal attention. Several factors affect employee innovative behavior such as boredom (Stock, 2015); perceived failure tolerance, communication openness and reward fairness (Ul Haq, Usman & Hussain 2017); perceived organizational support, and psychological empowerment); supportive communication climate (Arif, Zubair, & Manzoor 2012); Ethical leadership (Zahra, Ahmad, , & Waheed 2017); employees proactive personality (Kundu & Roy 2016; Yildiz, Sümeýra, & Coskun 2017) among other factors. Few studies addressed the role of employees training and development in innovative work behaviors (e.g. Veenendaal & Bondarouk 2015) despite the importance of understanding companies' return on training investment. The proposed research aims at measuring the nature and magnitude of the potential relationship that may exist between training and employees innovative behaviors together with the variables that may affect the dynamics of that potential relationship. The research questions are:

1. What is the relationship, if any, between employees training and innovative work behaviors?
2. What is the role of employees' engagement in the potential relationship between employees training and innovative work behaviors?

Social exchange and self-efficacy theories are used as the theoretical foundation that explains suggested relationships among variables.

Methodology/approach: The research adopts a quantitative approach in order to answer the research questions. A questionnaire is designed to collect data from respondents to measure the study variables. The questionnaire is divided into two main sections in which section one includes interval scale measuring, perceived training and development, innovative work behaviors, and employee engagement level. Section two includes a nominal scale that measures the demographic characteristic of respondents. Descriptive statistics is used to present the sample characteristics, correlation and regression analysis are used to measure the relationships hypothesized in the research.

Findings: Preliminary findings indicate that employee engagement mediates the relationship between employees training and innovative work behavior.

Research Implications: Academically, the research suggests a model that is to be tested in various industries and across different cultures. In addition to training, other human resources practices can be used to investigate their effect on innovative work behaviors.

Practical Implications: Answering the research questions can provide information to practitioners to assess training effectiveness and relevance to enhancing employee innovative behaviors. Additionally, the research explains other factor(s) that managers can utilize towards fostering employees innovative behaviors.

Track C1

Scaling-up the Adoption of Micro-grids in India through Social Impact Investment: Obstacles and Opportunities

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Access to reliable and affordable electricity has been linked to many social benefits including increased income, improved health, and educational attainment. About 1.3 billion people in the world, primarily in South-East Asia and Sub-Saharan Africa, still lack a connection to electricity. In developing countries like India, a dearth of electricity in rural communities puts stress on an already strained urban infrastructure, due to increased rural to urban migration. This problem is widely acknowledged and identified as such in the United Nations Sustainable Development Goals (SDGs). Especially relevant is SDG 7 that focuses on access to affordable and clean energy.

Almost 70% of the Indian population resides in rural areas, thus, the nation's economic and social development is inextricably linked to well-being in the rural sector. More than 50 million Indian households still do not have access to electricity, and approximately 20 million households receive less than four hours of electricity per day (The Climate Group, 2015). In April 2018, the Indian prime minister, Narendra Modi, tweeted with great fanfare that all Indian villages had been 'electrified'. However, electrified means the village is connected to a power grid. It does not mean that all its inhabitants have access to electricity (Bloomberg 2018). Even if all people did have access, projections from the International Energy Outlook report for India (IEA 2015) suggest that total renewable energy will account for only 11-13% of the total energy mix by 2032. Such a slow transition to clean energy and a continued dependence on carbon to fuel the growth of an energy-starved Indian market, will have detrimental social, economic and environmental consequences.

Thankfully, there are alternative pathways to resolving the problems of energy poverty and climate mitigation in India that circumvent the current limitations of the power network. For their economic and social development, isolated villages in India need not seek connection to the coal-powered grid and can instead deploy decentralised self-sustaining 'micro-grids' that can provide reliable and pollution-free electricity in remote and rural areas (Balijepalli et al, 2010). These micro-grids are efficient in providing services from

residential lighting to productive commercial purposes and can help improve health, employment opportunities, safety, productivity and education to rural residents. These small electricity networks operate autonomously and can play an important role in the construction of an electricity infrastructure based entirely on renewable energy technologies.

Indeed, it is forecast that India's installed micro-grid capacity could reach around 90 GW requiring USD 250 million of investment (The Climate Group, 2015). It is conceivable that the government could provide this funding but, in parallel, there is considerable scope for private social impact investment (SII) that can accelerate the process, decoupling rural economic development from climate change, and bringing about a lasting positive impact.

The purpose of this paper is two-fold: (i) to present several cases studies of existing micro-grid investment projects in India to identify critical success factors; and (ii) to evaluate opportunities (and obstacles) to the scaling-up of micro-grids in India through SII. The research takes a predominantly qualitative approach, and involves analysis of peer reviewed journal articles, government publications, and reports produced by leading agencies in the SII domain. The main outcome of the paper is the presentation of the case for social impact investment as a vehicle for addressing SDG 7, bringing about transformational change in rural India by ending energy poverty.

Towards Reducing Power Consumption in Classrooms and Labs: A Case Study at Middlesex University of Dubai

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Purpose: Energy saving is a common starting place for adopting more sustainable approaches in the workplace. Facility users play a key role in reducing power consumption in such a collaborative environment. This role needs to be governed by well-defined organizational strategies and policy guidelines for sustainability to maximise energy savings. From here, understanding the users behaviours such as users' awareness on energy consumption, attitudes towards energy conservation, sense of responsibility in the workplace and mindsets towards adjusting behaviour is crucial. In this context, Middlesex University of Dubai (MDX) classrooms and laboratories are examined as the 'workplace' for users where substantial amount of energy is consumed. This paper attempts to examine the users' behaviours as one of the factors affecting the electrical power consumption in an educational institution. It aims to study the users' perceptions of energy saving and look into their current practices when using electrical equipment in the classroom and lab. It also investigates the power consumption of selected electrical devices in relation to general use/idle scenarios. Based on the findings, the current university's strategies and policy guidelines will be revised and

gamified opting to improve its energy saving through introducing behaviour change on energy consumption to its students and staff.

Methodology: The particular focus of the research will measure the following elements: impact of device state on power consumption, self-reported user behavior, and observable user behavior sampling typical equipment found in laboratories and classrooms in MDX. Impact of device state on power consumption (PC): The computer laboratory and classroom were chosen as the experiment environment since most of the teaching and learning activities are done; hence, the electric power consumption mostly occur in those areas.

Power consumption readings were taken on four category types of devices typically utilized for teaching and learning activities: 1) desktop computer, 2) computer monitor, 3) laptop computer and 4) audio amplifier. At the time of writing of this abstract, consumption readings from only six devices were taken representing the above-mentioned categories including two desktop computers, one computer monitor, one laptop computer and two audio amplifiers. Two identical consumer-grade digital Watt-meters were used to measure the power consumption of the devices placing the measuring tool between the power outlet and the device (in-line). In the full paper, more sample devices will be included in the measurement. The duration of the measurements on each device for each of the states above varies from 3 hours to 3 days (72 hours) to mimic real-life usage. The measurement results show the total power consumption P for the period of time (t) of the measurement; then, the average power consumption in Watt per hour is calculated by dividing P with t :

$$P_{\text{device}} = E_{\text{device}} / t$$

From the calculation result above, estimated total power consumption by the same device model (same brand and part number) can be calculated by multiplying the average power consumption (P_{device}) with the total number of the device of the same type (n_{model}) installed in the campus:

$$P_{\text{model}} = P_{\text{device}} * n_{\text{model}}$$

Furthermore, estimated total power consumption by all device models used in the computer labs and classrooms can be calculated. Combined with the estimation of idle time, the amount of energy savings can also be estimated.

Impact of User Behavior (UB): comprised of two methods: first, observing and recording usage behaviour of students and lecturers of MDX. The selection criteria are made via convenient sampling of which, all participants have access to the computer laboratory classrooms. At the beginning of the session, all computers, monitors and the audio amplifier will be turned off. During the session, the number of devices turned on by users is logged. At the end of sessions, the number of devices left in an idle state is likewise counted. Second, a user survey will be conducted comprised of questions distributed across sections on: (1) demographics; (2) energy saving features in devices; (3) energy consciousness (4) peer/social responsibility on energy saving (5) self-reported user behaviour on devices and (6) willingness for behaviour changes.

Section (1) contains qualifies the respondents' role where the answers for which, determine subsequent sections for the respondent to complete. Descriptive statistics will be used to analyze the findings of the survey.

Findings: Preliminary findings show that turning off the device does save energy consumption as compared to when the device is left idle. The amount of power saved however varies depending on the type of device. Turning off the audio system and computer monitor resulted in a greater amount of energy saving compared to turning off desktop computers. Also, turning off an Apple iMac does not show significant amount difference as if the device was left idle.

Research Implications: Preliminary findings suggest usage behaviour to have an effect on energy consumption, which is moderated to an extent based on equipment-specific features as observed.

Practical Implications: Understanding how the overall energy consumption affected by user behaviour can help organizations in their approach to implementing more effective sustainability measures in the workplace. The outcome of this research can be used by the university or similar type user and facility profiles to form effective policy and guidelines for its staff and customers to achieve significant bottom-line impact. Future Research: Further observations sampling more users, behaviours and equipment settings will be considered. Other types of facilities in the workplace apart from classrooms and laboratories are interesting next areas of focus.

Challenges of Using Sustainable Solutions in Paper Manufacturing Firm: A Case Study

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MODUL University

Background and Purpose of research: In today's ever-changing world where globalization and technological advancements have taken the world to a different level, there are certain challenges businesses of today are facing to make themselves sustainable and follow the Sustainable Development Goals (SDGs) designed by the UN. Sustainability refers to environmental, social, and governance (ESG) dimensions of a firm's operations and performance (SASB 2017). As such, it describes a firm's actions to manage its ESG impacts with a positive contribution to society. In this context, a growing number of firms identify sustainability issues as strategically important and try to integrate sustainability issues effectively into their business strategies (Khan et al. 2016). This paper discusses preliminary research conducted on the paper manufacturing industry and the challenges that it faces adopting sustainable solutions to survive and remain profitable when many consumers, institutions and government bodies are trying to go paperless. The purpose of this research is to discuss the sustainability issues in the paper manufacturing industry in detail and identify

how to incorporate SDGs in the functioning of the firm, to become pioneers of embracing sustainability.

The paper industry is worth around \$500 billion dollars in the UAE (Rizvi, 2018), therefore, it attracts a lot of investors, however, over the last few decades, with the sharp concerns and awareness of the need for sustainable development and increasing stakeholder expectations, firms have been shifting their goals from maximizing profit to optimizing triple bottom line, i.e. contribution to planet (ecology/environment), people (society), and profit (shareholder) (Elkington 1998); and from shareholder value maximization to shared value creation (Porter and Kramer 2011). Even the consumers have become environmentally conscious, and hence, things have started to go downhill for the paper manufacturing industry. Consumers prefer companies that follow green production methods and inculcate sustainable solutions to manufacture their products and services. This research focuses on a paper manufacturing firm based in the UAE, however, due to company policy the name will not be disclosed in this paper or any other future research. Therefore, the authors decided a fictitious name as 'FAS paper manufacturing firm'. FAS has been facing ethical, financial and legal issues due to the cases of deforestation, overuse of water during production and waste, among others. The implementation of the Sustainable Development Goals by the United Nations specifically goals #15 labelled 'Life on land', has raised awareness on this issue and has sparked a revolution among the society.

Methodology: An empirical research methodology consisting of the qualitative method was adopted to evaluate the paper manufacturing firm in the UAE. The authors conducted several observations as well as interviews with the CSR team which supported the pieces of evidence discussed in the paper. The research specifically focused on SDG goal no. 15 i.e. 'Life on Land' as this goal is relevant to the deforestation and overuse of water, which is an increasing threat to the environment. This paper is at a preliminary stage of research and therefore, only primary investigations will be discussed in the paper.

Findings: The interview with the CSR team and the management of the paper manufacturing firm was an eye-opener in terms of the importance of the contribution of the paper manufacturing industry to the development of the economy, however, it was also realized how much environmental damage has been done by this industry alone. As already discussed in the methodology, the research paper is at its initial stage and would like to draw attention to some of the facts and challenges faced by the paper manufacturing industry in the UAE. During the interview, the CSR team discussed about the ethical, financial and legal issues the firm is facing and therefore, is working on implementing new ways in which they can continue their successful operations in a sustainable manner which will not only keep the shareholders content but also the society and all other stakeholders involved and satisfied.

One of the challenges discussed by the CSR team of the firm was, it was facing legal issues in terms of rules and regulations that need to be followed while manufacturing paper. They have been levied with heavy fines for excessive deforestation, waste and emissions of greenhouse gases. Another issue discussed was that consumers today are much more cautious about their carbon footprint and therefore, take it on themselves to take the company to court for their activities. The environment is a very sensitive topic these days and any small action can have major negative implications on the firm's profitability and value maximization.

With the recent preference of customers changing towards ethical and sustainable products, the sales revenue from selling paper and paper-based products has been declining, resulting in a reduction of the profits. For FAS to continue business and avoid risking bankruptcy, they need to switch around this slump in their sales by attracting new customers and retaining old ones. The issue here is to find a way to keep all the stakeholders satisfied while still following the law and avoiding fines.

The CSR department of FAS is working on developing strategies to overcome these challenges and implement sustain solutions to not only reduce the negative impact on the environment but also to be a pioneer in using sustainable solutions and set an example to other manufacturers in the industry. In the opinion of the team, the best course of action for FAS would be to find an alternative material with which they can produce a paper which can have no negative impact on the environment. Finding a suitable substitute is not easy but doing so would result in mitigating the negative impacts that come with each of the issues mentioned above. After conducting an interview with an environmental expert on this matter he suggested, that the most ideal solution or an alternative to cutting trees for paper manufacturing is to use sugarcane or bamboos, which are easier to grow and less harmful than cutting trees. Sugarcane or bamboo pulp has the same material which is required to make a regular paper and it requires a fraction of the time to mature and re-harvest without the need of being re-planted. This alternative also aids in reducing the production cost as well as less harm or no harm to the environment. Another benefit of using sugarcane or bamboo is that they are 100% biodegradable which solves the negative impact of cutting trees and ethical issues concerning the environment and society. They also do not require any fertilizers, pesticides or insecticides to grow which will solve environmental problems. Another and most important benefit of growing sugarcane or bamboo is that it will give employment to many farms workers.

These alternative resources will not only support FAS establish a new image in the market, but it will also gain the trust and loyalty of customers by being environmentally friendly and sustainable. Costs are likely to go down due to the usage of alternative options for manufacturing paper rather than cutting trees, this will surely result in an increase in profit and value maximization for the shareholders. There will be no issues of deforestation or harmful emissions as bamboos and sugarcane are eco-friendly and low maintenance crops.

Research Implications: While the authors decided to work on this topic, it was challenging to identify a business which was ready to share information freely. Once the business was identified it was difficult to convince them to research on various areas as they did not allow us to enter certain areas or function of business due to confidentiality issue. When the business was finally convinced that this research is only for academic purpose, they were hesitant to allow us to use the actual name of the company and therefore, we had to create a fictitious name to write the paper. This research is in its initial stages therefore, it would be good to use a research model and better methodology to improve the findings in the future. It would good for future researchers to compare the paper industry in different countries and evaluate the challenges faced to remain sustainable.

Practical Implications: The solutions recommended in the paper are yet to be studied further and will need more investigation in order to implement the above-mentioned solution. It is possible that the final version of the paper produced by using sugarcane or bamboo material may not be as accurate as the material of using the trees. It may also have other implications and therefore, it is important to thoroughly study the recommendations before implementing them.

Quality Culture and Burnout: A qualitative study of early career employees' expectations in the Indian oil and gas industry

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Purpose: The impact of a quality culture on improving organizational performance through increased learning, engagement and motivation levels of employees have been important discussions in the domain of quality management and business excellence recently (Malik and Garg, 2017, Álvarez-García et al., 2016, Chang et al., 2010). Using a qualitative research approach and interviewing techniques, this paper aims to identify the presence of quality management principles within organizational cultures and subsequently, its effect on employee wellbeing within the context of Indian manufacturing firms. In doing so this study makes three important contributions: (i) in investigating early career employees in the Indian oil and gas industry, it considers an important yet sparingly studied setting, (ii) it sets its focus on avoiding 'employee burnout' as an important outcome of employee performance, and (iii) it establishes a link between existence of a quality culture and reduction of employee burnout.

Quality culture carries a taken-for-granted meaning but is often loosely defined due to the lack of a shared characteristics across industries, organizational settings and marketplaces (Harvey and Stensaker, 2008). Hence this study begins by offering a defined set of characteristics of a quality culture and establishes its interdependence with learning. Research suggests that a direct interpretation of quality culture is the implementation of organizational learning and that continuous improvement and best practices follow when people continually expand their patterns of thinking to generate desired results and aspiration towards collective learning is nurtured (Senge, 1990; Martinez-Costa and Jiménez-Jiménez, 2009). It can then be argued that, without the inclination to establish a learning culture, quality management practices would not be successfully implemented.

While several studies have found a positive relationship between quality management and organisational performance (Boulter, Bendell, & Dahlgard, 2013; Baird, Hu, & Reeve, 2011; Dick, Heras, & Casadesús, 2008; Sila, 2007), few have focused on the important factor of employee burnout. To ensure customer satisfaction and loyalty employee engagement is vital (Humborstad, Humborstad & Whitfield, 2007). Burnout results from persistent situational stress that accompanies longstanding involvement in emotionally demanding situations, despite concerted efforts (Freudenberger, 1974, cited in Sharma, 2007). A more recent

and appropriated definition of burnout has been derived from the work of Maslach et al. (1981), who had proposed a construct with the dimensions of emotional exhaustion, depersonalization or cynicism, and reduced personal and/or professional efficacy (Schaufeli et al., 2008). A recent survey by the global Society for Human Resource Management (2017) revealed that, while burnout levels are reaching record levels globally, unfair compensation, challenging workloads and indecisive management are key contributors to this problem. Stress at the workplace have led to many employees feeling less engaged in their jobs, and reporting health problems like depression and headaches, which later lead to chronic diseases (Afzainizam et al., 2016). While burnout can be experienced at any career stage, research has found it to be relatively stable for groups that have spent some years working in their companies while it was more impactful and dynamic for early career employees (Tijdkink et al., 2014; Dunford et al., 2012; Yoo, 2011).

This study has been positioned in the Indian oil and gas sector, considering its vital contribution to the country's economic landscape as well as its unique challenges for human resources: talent shortage, requirement of specialized and skilled employees and an aging workforce (EY, 2018). The Indian oil and gas industry contributes approximately 15% of India's Gross Domestic Product (Business Standard, 2017) and central public sector enterprises (CPSEs) employed over 110,000 staff in 2016. India is the third largest global oil consumer (The Hindu, 2016), and the consumption is expected to double owing to further expansion of the economy (IBEF, 2018). Employees in the oil and gas industry face both physically and emotionally demanding work conditions. These result in occupational stress for the employee. Such stress is shown to cause distress, insomnia and adverse behavioural changes. This eventually leads to burnout as the employee feels drained, ineffective, and, after trying excessively to change the status quo, even distrustful (Dias et al., 2016). This study attempts to argue that the implementation of quality culture could lead to decreased levels of and eventually, prevention of employee burnout.

Methodology/approach: A deductive approach has been employed to explain existing concepts in a new setting, whereby the effects of quality culture on employee burnout have been investigated (Catanzaro, 1988). A qualitative research design was implemented as limited attention was paid to understand the lived experiences of participants within the literature reviewed on the topic (Packirisamy, Meenakshy, and Jagannathan, 2017).

Primary data was collected using a purposeful convenience sampling technique (Crouch and McKenzie, 2006; Patton, 2002) that was used to identify and select participants from employees within the Indian oil and gas industry, which included early-career, mid and senior levels of engineering professionals. Participants also included human resource professionals from this industry, particularly those involved in talent acquisition and retention roles, to understand employee experiences in more depth. Willingness to participate and availability along with relevant knowledge and/or experience were the criteria used in identifying participants (Bernard, 2002). The participants' individual perspective of the topic would be unique, which would add to the theoretical understanding of the study (Robinson, 2014).

Data was collected through semi-structured in-depth interviews that explored the participants' descriptions of work expectations especially in early-career stages (for example, questions included: What did you found inspirational during your early career? What were the aspects that put you off, or were inhibitors for growth?) and their understanding of and perceptions towards burnout (for example, questions included: Do you believe overwork was prevalent in your work life? How important is work-life balance to you?), as well

as experiences of the quality culture (for example, questions included: How was training provided and how did it impact your performance? [For leaders] How important are asking probing questions, listening, understanding challenges, and providing a venue to improve past performance for those in leadership roles?) Durations of the interviews ranged from 30 minutes to an hour and a half. An approach of reflexivity was used with the participants, by clearly stating the circular relationship between the responses of the participants with the central idea of the study (Quinlan, 2011). While basic themes and aspects of the study were addressed for all participants, the flow of the interview was decided by spontaneous choice, based on the flow of the individual conversations. After audio recording the interviews, verbatim transcripts were created and analyzed.

Findings: After collation of the verbatim transcripts, these were divided into parts and closely analyzed to arrive at similarities and differences. This led to the development of codes (conceptually similar ideas) and themes (related groupings of codes) which were then reviewed for cohesion. This led to the identification of five themes identified:

- (1) The expectations of the early career engineers before they entered the industry, particularly of the nature of the job and gender diversity, which were set by drawing references from pre-placement awareness campaigns, informal interactions and social media.
- (2) A emphasis on locally-sourced workforce to enable longer durations of tenure and avoidance of cultural clashes.
- (3) The paradoxical nature of overwork where the phenomenon was termed as prevalent and demanding, yet unavoidable.
- (4) The availability of information at fingertips, which would enable quick access to easy career switches and self-actualization opportunities.
- (5) Post-entry opportunities like procedures, people resources and supportive leadership, where quality of the resources provided were deemed critical and openness and support from the management were constrained by the inherent safety concerns and approval matrices of the industry.

There were several additional findings. Pre-placement awareness campaign objectives were not thorough in covering topics regarding training programmes, career growth and alternative paths within the organizations in the industry. Due to the intrusion of social media, notions of work environment, pay structures and similar themes of pre-entry discussions like female representation, were not pre-defined for the Indian oil and gas industry. Moreover, the accessibility of information also enabled the early career engineers to pick and choose career paths within and outside the industry.

Research Implications: This paper investigates the expectations of early career engineers in the Indian oil and gas industry. Previous research have noted the positive impact of quality management initiatives to achieve employee satisfaction, measured by the incremental improvements in learning, engagement and motivation levels of employees. Considering the implications of quality culture defined by learning outcomes and leadership support as an important impetus for employee performance, this paper establishes a link between existence of a quality culture and reduction of employee burnout.

Practical Implications: Burnout has often been cited as dynamic, and the psychological responses of the employees depend primarily on demands of the job and the resources at the employee's disposal in order to resuscitate the coping mechanism (Maslach, 1996; Dunford et al., 2012). As Shortland (2015) posited, women stress for a balance between career and family outcomes. Long and unaccompanied assignments would be difficult for them to manage, unless the provision of strong family support, in tandem with leaves and flexible working hours, is available. Development of the work environment with respect to career enrichment and learning opportunities has a pronounced effect on employee performance and retention (Kraft and Papay, 2014).

Organizations that are positive and appreciative (Cooperrider and Whitney, 2005) would be able to deal with burnout better than the others. Hiring a more local workforce could be beneficial, especially during the process of growth in terms of capacity and local geographic expansion, and also HR concerns like resignation and rustication. The organization can also continue to tap into the pool of local talent without much expense of talent acquisition and the removed employee would also have a softer landing (Forbes, 2016). While adoption of best practices from other industries would be an interesting method to circumvent employee dissatisfaction, pre-defining them for the oil and gas industry before actual implementation is required (Harvey and Stensaker, 2008). Measures and goals are important drivers of performance in organizations; however, their use and nature of adoption influence the engagement levels of employees. Specific guidance is required in designing measurement frameworks and understanding the parameters that need to be monitored (Smith and Bititci, 2017).

Track C2

Realist Evaluation of FinTech and Higher Education: What works, for whom and why?

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Purpose: One of the pillars of successful global FinTech (Financial Technology) ecosystems is described as talent, with the other pillars considered to be capital, policy and demand (EY UK, 2016). Drawing on realist evaluation, critical cultural political economy of education and civilisation analysis this research attempts to theorise the mechanisms and contexts which frame the development and growth of FinTech, with a particular focus on the role of higher education institutions in the construction and development of Bahrain FinTech ecosystem. The purpose of this research is firstly to focus on the Gulf Co-operation Council (GCC) region—which is pursuing reforms focused on reducing reliance on oil revenues and promoting development of knowledge economies—in general and FinTech in particular—and the role of higher education institutions in the FinTech ecosystem. In order to do this it is necessary to understand under what conditions the approach to FinTech in Bahrain higher education space happens, to whose benefit and why. There has been a proliferation of FinTech hubs across the world since 2008, identified in evolutionary terms as FinTech 3.0 (Arner, Barberis & Buckley, 2015). GCC FinTech development is more recent—FinTech 3.5—with Bahrain FinTech Bay launched in February 2018. Focusing on the Bahrain FinTech sector, the research intention is to identify if higher education institutions have a role in the construction and development of the FinTech ecosystem, under what conditions, to whose benefit and why.

Methodology: The research focuses specifically on the implementation of a conceptual and analytical framework for understanding how and under what conditions higher education institutions contribute to the FinTech ecosystem. In particular, the research operationalises a realist epistemological, ontological and methodological frame of reference in an attempt to explain the complex interactions of the higher education institutes and FinTech and the cultural political economy within which they operate. In doing so, the research draws on and adapts aspects of Critical Cultural Political Economy of Education (CCPEE) (Robertson & Dale, 2015) and Civilisation Analysis (CA) (Arnason, 2003) and is grounded in realism. A realist methodology is utilised as a means to explain the phenomena under investigation. Empirically, the research uses a combination of interviews and document analysis to provide a comprehensive approach to explanation and findings. Realist analysis (Pawson, 2006) and Faircloughs (2010) critical discourse analysis (CDA) are used for analysis. Realist analysis is considered an ongoing iterative process of placing nuggets of information (Pawson, 2006) within the wider configurational explanation of context, mechanisms and outcomes (Manzano, 2016).

Findings: Initial findings indicate that GCC FinTech hubs tend to focus on developing the talent pillar by engaging in partnerships with business schools in the case of Dubai and Abu Dhabi, or delivering FinTech Consortium Institute talent programmes in the case of Bahrain. Bahrain FinTech Bay (2018) identified ed-

educational institutes as 'struggling' to keep up with developments and preparing relevant educational programmes. Fintech 3.0 hubs such as California have a considerable focus on Science, Technology, Engineering and Mathematics (STEM) education.

Research Implications: This research contributes to the theoretical body of knowledge related to critical cultural political economy of education. The CCPEE as a theoretical framework, combined with civilisation analysis has—through the conceptual framework of cultural patterns, wealth and power—given a means in which to understand the processes of higher education institutions in the context of the Bahrain FinTech ecosystem through analytical movements as well as a means to understand how these causal mechanisms operate. This framework offers a level of certainty in terms of how the higher education institutes approach the needs (or not) of the FinTech ecosystem.

Practical Implications: At the institutional level, higher education providers, both state and private, advocate that they meet the needs of industry through employer engagement in programme and course level teaching and learning activities. Institutional leaders may want to consider developing policies that are focused on STEM—including STEM in business education—across their programmes. STEM in business education is an emerging field with examples of successful implementation published recently (AACSB, 2015). Institutional competitive advantage may be achieved by focusing on developing business programmes with STEM principles, while meeting the national needs of the evolving FinTech sector.

Investigating Trends in Cyber Security Threats in the 21st Century

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Understanding Cybersecurity in the digital era is a major endeavor for both academicians and societal stakeholders. The contextual changes in the role digital data plays in the day-to-day activities necessitate a critical investigation in the internet and cyber security trends of the 21st century. At present, technological advancements in data systems catalyze the shift of preference to electronic data forms for all the kinds of information in their possession. However, this shift introduces new kinds of conceptual threats to security systems such as hacking and data theft. Preliminary research reveals that the significant growth in web connections has significantly catalyzed growth in cybersecurity related issues that created a new generation of threats. In this regard, the use of malware has emerged as one of the lethal weapons used by cybercriminals to hack and steal data from vulnerable networks of unsuspecting users. Emerging technologies are now adapting innovations of advanced security systems as a way of defending themselves from these new threats. Therefore, in this regard, this research paper adopts a literature-based methodology to examine emerging trends of the cyber attacks in the 21st century by identifying the various loopholes in

networks, computer hardware, and software systems. Consequentially, critically discuss the limitations of these innovations with a special emphasis on new emerging web-based technologies such as social media, Internet of Things devices and cloud data storage systems. Towards the end, the paper explores multiple strategies to approach future research as a preventive measure of mitigating risks associated with cyber-security threats.

Design and Implementation of Bulk SMS Application for Public and Private utilization in Yobe state Nigeria

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Since the evolvement of Information & Communication Technology (ICT) I the mid-21st century, business and communication as since propelled to high standard by providing customers with the best satisfaction and also eliminating any issues that may hindered the business. ICT has aid business organization with competitive advantages over business rival or competitors due to its new and innovative approach. The core objective of JEGAS is ensuring that all customers have the best satisfaction in a secured and smooth manner when performing transaction with the company. JEGAS wants to eliminate any difficulties customers may face when performing daily transactions. In other to achieve the above objectives, a project proposal was design and sent to JEGAS to authorize the development of the new Information system (Bulk SMS System) that will positively execute all the activities of JEGAS

Comparing the Usability of Windows 7 interface with Windows 8 Metro Interface Using Desktop and Laptop Computers

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Usability plays an important role in developing qualitative and interactive software applications, and this so even with operating systems. Windows operating system has undergone tremendous changes over the years. In 2012, Microsoft released Windows 8 operating system. Since then however, there have been growing debates especially from personal computer users about the usability of Windows 8 compared to

its predecessor Windows 7. Hence, Windows 8 new metro interface is the most concerned features, with many viewing it as confusing. This research investigated the usability issues of Windows 8 metro interface through a comparative study with Windows 7. Our study targets the usability of the metro interface both on desktop and laptop computers. A semi-structured interview was conducted with experienced users of both operating systems. The result indicated that windows 8 metro interface when used with desktop and laptop computers has a usability issues such as learnability, efficiency, memorability and satisfaction.

Embracing disruption, growing profitability and gaining competitive advantage in banking and payments

Dr Rajesh Jayakar Pai and Mr Kannan Devarajan

Manipal Academy of Higher Education

Innovation is disrupting the payments ecosystem redefining boundaries amidst raising competition, growing expectations on value enhanced customer experiences and influx of FinTechs. The snowballing effect created by software and hardware technologies, artificial intelligence and automation has impelled increasing advent of innovative products and services. While some such developments augment traditional platforms to create customized experiences and value toting for customers, there have been advances that disruptively challenge conventional products, processes and services. Subsequent to the economic downturn of the previous decade, a number of traditional financial services institutions are going through such varied disruptions that challenge their very existence and profitability. Banking and payment industry is keenly involved in this new biome caught between the challenges to reduce costs and cope with the new regulations on transparency, security and compliance. Amidst stiff competition fuelled by demanding customers and shrinking profits, banks and payments institutions are painstakingly improving cost efficiency and profitability. In general, most of these institutions try to improve in these areas by lowering operating costs by optimizing the channels and by restraining investments in information technology areas. While electing traditional cost cutting strategies may boost profitability, alternative options exist that can stimulate sustainable competitive advantages. Fin-Tech revolution, advent of SWIFTNet's MT 798 and Decentralized Ledger Technology (DLT) are some such novelties that can offer superior control and effectiveness for trade finance operations in banking. Elimination of routine paper based systems, industrializing business processes through automation and hitching artificial intelligence deliver unusual techniques to optimize costs and improve process efficiency while creating unique experiences for customers through value creation.

One inimitable technology in this evolving ecosystem is Blockchain that is gaining traction in diverse sectors stretching from governments across countries to corporates to take advantage of its benefits. The research is an attempt to reconnoiter its varied applications across different sectors and specifically analyze espousal in banking and payments industry with its related characteristics, advantages and limitations.

This is an empirical study involving exploratory research into some of the most successful applications of Blockchain and the learnings gleaned in banking and payments. The findings are quite wide-ranging in terms of the speed, accuracy and costs associated with payment systems. In a broader sense this adoption has significant potential for financial inclusion for those who are living below the poverty lines across developing nations.

Non-profit organizations like FINRA have underscored various operative and supervisory areas that participants of the systems have to consider while exploring Blockchain technology. FinTech startup R3 is one of the largest collaboration effort in this arena comprising 200+ syndicates across 6 continents, where partner firms build apps in Blockchain using specialized platform. This platform finds varied applications across financial services, healthcare, shipping, insurance and many other industries. Customarily a third-party financial institution is used as an intermediary to approve any electronic financial transaction. Intermediaries verify and protect the transactions and entities involved in such transactions. Blockchain utilizes cryptographic proof of transaction by protecting it through digital signature. In order to spend money, the ownership of the asset must be established by comparing the ownership of the private key with the public key of the sender.

Blockchain DLT stores blocks of data together and allows transactions to be added and not alter anything that exists through cryptographic techniques to connect the contents of new blocks with old ones. The transactions in one block are considered to have occurred simultaneously at the same time. When each of these blocks are linked together by a unique hash code with the previous block, it creates a very robust and unbreakable chain of transaction records. To avoid any unverified transactions being added to the blocks, the network must solve a complex mathematical puzzle. Building on these platforms, open source global collaboration efforts like Hyperledger supplement the advancement of Blockchain across industries. Hosted by Linux Foundation and various leaders in finance, banking, Internet of Things, supply chain, manufacturing and technology, it added several business codebases raising corporate and associate memberships.

These emerging technologies have potential to reduce costs and ease business processes, cross border transfer of payments and abate complexities in current trust based systems to verify identity and credibility of transactions. Various financial institutions like banks and exchange houses have started to accept the promising future and security offered by Blockchain technology. It has become acceptable in private securities, insurance and in certain non-financial applications such as notary services. The transparency offered by this system will enable monitoring and control of financial transactions across various entities including sanctioned countries. The trade volumes will be positively influenced by the use of Blockchain technology. With the inclusive knowledge garnered through this research, this technology could be explored further for applications in areas previously not tried while also considering the mitigation of potentially underlying and evolving risks. The results of this study will enable managers review their current functional systems and policies, and take proactive steps to develop infrastructure and policy changes to address the new and changing paradigm shift created by these disruptive technologies.

Track C3

Enhancing stakeholder value in the securities ecosystem under changing technology landscape

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Efficiency and competition are the key drivers in the value chain to create gratifying and unique experiences for customers and to fuel growth of businesses. Securities markets across continents are still in the process of dematerializing assets by implementing secure electronic forms of securities instead of holding physical custody. Parallel disruptions in business models sweeping across the securities markets present numerous challenges, but also opportunities for adoption. Securities markets worldwide are seeking ground-breaking ways to get more efficient and cost-effective while surrounded by taut competition and aggregating regulations from governments to quicken settlements, mend transparency and discern new avenues for value creation for stakeholders. Despite strong growth battling headwinds through the past decade, securities infrastructure clusters are facing widening revenue gaps falling short of expectations. The ecosystem of primary markets, clearing services, technology and data analytics are forecast to grow in the measly single digits. The data providers periphery and asset custodians are not exempt from this impending growth despairs. Leapfrogging growth targets and unraveling participants' problems both from buyer and seller perspectives, data analytics, process enhancement, compliance and risk management plea thinking outside known realms.

Getting competitive in global markets merits higher precedence as countries stop issuing paper securities and switch to electronic custody and trading. Countries in Asia, Africa, Latin America and Europe have completely discontinued paper certificates. Pervasive disruptions are forcing market patrons to look for ways to cut expenditures, minimize or eliminate intermediaries and boost productivity and profitability. Accelerating development of innovative solutions like FinTech, Mobile Apps and Distributed Ledger Technology (DLT) evoke increasing attention of securities professionals for early adoption. The purpose of this research is to explore the fruition of DLT, also known as Blockchain, its applications and insinuations in securities industry. This disruptive technology is impacting how the investors are investing and how the securities issuers are raising capital through the capital markets.

In contrast to conventional accounting system comprising of a trusted agency such as a bank that maintains a master register of transactions, Blockchain is decentralized and distributed ledger. Additions to this public register are carried out through encryption in the form of blocks. Adding transactions requires nodes to concur, through a peer to peer validation. A significant disruption system is centralized storage of blocks eliminating intermediaries and associated costs. In traditional systems, approval by a third-party is required for electronic transactions where intermediary has to verify and protect transactions. DLT uses encrypted digital signatures as a proof of the transactions. By comparing the ownership of private and public keys,

the ownership of the asset is established. While Blockchain is finding varied applications, equity or debt securities in the form of digital tokens are becoming increasingly popular. Organizations attempting to raise capital, can issue digital tokens for securities which empowers the buyers to be able to transact like any other conventional share holder including voting rights. Several organizations globally have begun recognizing sale of digital tokens as securities. Securities Exchange Commission (SEC) in the U. S., has already issued guidance for the sale of digital tokens.

Sudden surge in Initial Coin Offerings (ICO) in the digital currencies under DLT has drawn the attention of regulators and enforcement authorities to initiate control measures and introduce regulations to prevent frauds and to protect consumers. Organizations such as FINRA have emphasized on operational and regulatory verifications for DLT participants. The changing landscape in the securities world due to the increasing application of Blockchain are very important and relevant in the sense that federal authorities and private and organizations have to look into their current regulations, policies and procedures and identify the updates required to make them address the potential vulnerabilities to ensure that consumer's interests and compliance to regulations are ensured. A vast range of participant groups in DLT ranging from general public and top federal agencies will have to be educated.

In this exploratory study of empirical nature, emerging applications and implications of DLT in the securities industry are analyzed. Several interesting findings from the study such as transparency, security, reduction of intermediary fees and charges and elimination of centralized ledgers are disruptive and have immense potential for applications across several national exchanges and both federal and private securities organizations including banks. Organizations have to plan inclusive strategies for such transformation, operating tactics and governments have to re-evaluate policies to make provisions for inclusion of all sectors of the society affected by these disruptions. The results from this study will be able to aggregate the benefits to these sectors and enable raise awareness and initiate increased attention and investments in these emerging technologies so that the advantages can be effectively leveraged by mitigating inherent risks through adequate preparatory and preventive measures.

Beyond the Journey: Exploring Radio Advertisements and Domestic Tourist Behaviour Towards RAK, UAE

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Radio advertisements are often used by destination marketers to increase the awareness and perception of a destination. The aim of this quasi-experimental study is to investigate the effectiveness of radio advertisements a) without humor and music b) with humor only c) with music only d) with both humor and music on tourist attitudes and behavioral intention to visit a destination in the UAE. The results suggest that

entertaining radio advertisements (with humor and/or music) are more effective than plain advertisements, and within that, advertisements with humor are more effective than those with music, and with humor and music. The findings provides a novel understanding on the contingent use of radio advertisement in promoting a destination.

Brand Loyalty Formation Among Smartphone Consumers in UAE

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Studies on brand loyalty are rich and extensive and can be traced as far back as 1923 with the seminal work of Copeland (1923) first proposing a definition of brand loyalty. Brand loyalty research can be divided into two distinct approaches; theoretical, which create markets based on the loyalty intensity of the consumers and empirical, which link variables to loyalty irrespective of the loyalty intensity level (Curran & Healy, 2014). Following Curran & Healy (2014), the purpose of this research is to investigate the relevance that antecedent variables, as identified from the literature, have on three different stages of brand loyalty formation. This research empirically examines the impact that variables such as peer influence, social desirability, switching costs, trust, investment, brand community, reference group influence have on each loyalty level among consumers of a technology product with a short life cycle i.e. smartphones.

The development of hypotheses is based on the key variables identified from the literature and their relevance to the formation of brand loyalty. Questions related to loyalty, attitude, purchase intention and evaluation of antecedent variables related to a chosen brand shall be administered through an online survey. Responses would be collected using a seven-point Likert scale (strongly disagree/strongly agree), with the order of the questions varied for each of the brands considered (Curran & Healy, 2014). Statistical methods such as Manova- for investigating meaningful differences in loyalty, attitude and purchase likelihood among the brands and Logistic Regression- to ascertain which of the variables distinguish between the three levels of loyalty is proposed. Past studies show the existence of meaningful differences between stages of loyalty development and the relationships between loyalty and other variables varying with the intensity of consumer loyalty (Curran & Healy, 2014). However, these studies looked at a broad range of brands offering products such soft drinks and pizza, while this study is focused on brands related to technology products with short life cycles which appear to significantly affect the brand loyalty formation among consumers (Ramachandran, 2015).

By identifying the effect, impact and linkages between the variables and the loyalty level, business could identify the variables which have a greater impact upon the loyalty formation of their consumers and employ appropriate tactics to develop and strengthen the customer loyalty base in the highly volatile world of technology products.

Why Innovation in Sustainability Reporting is Not Encouraging Sustainable Development

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The purpose of this paper is to highlight the current state-of-the-art in corporate sustainability reporting practices with reference to two case studies; namely, Coca-Cola and Nestle Oil. The choice of these two organizations is deliberate in that they have multiple key stakeholder groups directly and indirectly affected by their operations; a wide range of positive and negative impacts they should be disclosing (including the disclosure of the boundaries of these impacts); and they have different purposes and uses for their sustainability reports. Both companies also ranked in the '2018 Global 100 Most Sustainable Corporations in the World' (Corporate Knights, 2018).

The paper analyses the comprehensiveness of each of the reports, and their coverage against the companies' actual impacts and boundaries, and the usefulness of the information disclosed to different stakeholders, including the silent stakeholder; the environment. The paper makes reference to two frameworks to compare the sustainability reporting approaches of the two companies:

1. The Global Reporting Initiative (GRI) standards for sustainability reporting: These standards have evolved steadily over the last two decades and detail the requirements for disclosures in all governance, economic, social, and environmental aspects of critical importance to the business and its key stakeholder groups. The GRI standards support the comparison of sustainability reports by delineating how material topics are identified and how the level of disclosure can be assessed to ensure it is clear, comparable, balanced, and comprehensive in order to guide stakeholders' decisions.
2. The integrated reporting <IR> framework: Commencing in 2013, the International Integrated Reporting Council (IIRC) has promoted the <IR> framework, which focuses on value creation as the next step in the evolution of corporate reporting. This framework guides a narrative about how a company creates and sustains value across six capitals (financial, manufactured, human, intellectual, natural and social) in the short term and the long term. It examines the business model of a company and is future-looking in its orientation.

The key findings are that neither company appears to have a clear understanding of the sustainability concept beyond what it means for the organisation itself. Or, they are trying to misguide stakeholders by focusing on only the positive impacts of their operations. Furthermore, there is a lack of detail regarding sustainability governance at different organisational levels, and how sustainability criteria are considered in the selection of top management and in decision making. The implication, therefore, is that sustainability is a 'bolt-on' concept rather than a central determinant of corporate strategy. This is further illustrated by the fact stakeholder engagement practices are well explained, while the results of such engagements are not. Most significantly, the information disclosed does not cover the entire value chain. This is a problem because a commitment to sustainability does not begin and end 'at the factory gates'. Indeed, a company's biggest impact on sustainability may be upstream or downstream.

The above analyses confirm some of the misgivings various commentators have about the field of vision when it comes sustainability reporting (e.g. Flower, 2015; Oll & Rommerskirchen, 2018); the outcome being 'weak sustainability' rather than 'strong sustainability' (Ayres et al, 2001).

This said, few will argue that accounting for sustainability has come a long way over the last two decades or so, and as Adams (2015, p. 27) points out, the ideas in integrated reporting will evolve and their impact on reporting practice will depend upon those critical of the status quo 'both engaging with practice and ensuring their voices are raised and heard'. The challenge, however, is that we do not have the luxury of time. Indeed, so long as organisations settle for being less unsustainable rather than have some compelling vision for sustainability with a target date and a plan for zero net impact, the strain on the planet's fragile ecosystems will only escalate.

Blood Diamonds and Ethical Consumerism - An Empirical Investigation

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Purpose: The aim of this study is to develop, validate and apply a multi-dimensional framework to assess the ethical buying behavior of consumers in the diamond industry.

Methodology: A multi-dimensional framework comprising of four constructs, namely 1) Generic Ethically Minded Consumer Behavior 2) Willingness to Pay more in General 3) Ethical Concerns regarding country of origin of Diamonds, and 4) Ethical Buying Behavior of Diamonds was first developed through an extensive literature review. Next, using 418 responses collected through a structured questionnaire, the framework was validated, and the relevance/appropriateness of each construct and its underlying factors, along with the hypothesized relationships between the constructs were assessed.

Findings: The findings confirm the validity and reliability of the constructs and their underlying factors as well as the assessment framework. With regards to hypothesized relationship, a strong and significant positive relationship was seen between ethically minded consumer behavior and willingness to pay more, while a moderate but significant relationship was seen between ethically minded consumer behavior and ethical concerns regarding country of origin of diamonds and ethical buying behavior of diamonds.

Practical implications: The findings provide practitioners, policy makers and organizations associated with the diamond sector the growing impact of ethical consumerism.

Originality/value: A comprehensive survey-based assessment of ethical consumerism in the diamond industry has not been previously attempted and constitutes the novelty of this work.

Track C4

Back to the Basics – Clinical Interview Skills trump COWs Technology

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Purpose: Since the rise of modern medicine in the 19th century, medical interview process is considered as one of the most powerful instruments available to develop rapport between the physician and the patient (Chin-Yee & Upshur, 2015). Health educators however believe that physician dependency on technology is undermining this doctor-patient relationship. Computer on wheels (COWs) technology, which is a regular feature in modern tertiary care hospitals has been particularly criticized. Research in the past few years has clearly shown that usage of COWs technology is disrupting physician-patient communication (Cummings, 2013). This leads to poor doctor-patient relationship and consequent adverse impact on medical diagnosis; the very reason for which COWs were introduced in the first place. On the contrary, doctors are able to reach a final diagnosis in about 90% of the patients on the basis of an effective medical interview (Hasnain, Bordage, Connell, & Sinacore, 2001). Thus, there is a need to attain mastery in clinical interview skills to help reach early diagnosis. This qualitative study therefore investigated physicians' experiences of an effective patient interview process.

Methodology/Approach: The method used in this study was unique. It involved using a Positive psychology approach called Appreciative Inquiry. Positive psychology is the study of conditions that contribute to the optimal functioning of people, and institutions (Gable & Haidt, 2005). For the purposes of this study, Appreciative Inquiry (Berg & Karlsen, 2012) may be considered a strength-based technique which seeks to ferret out the best in a medical interview process. In-depth interviews were conducted with six clinical practitioners from two tertiary care teaching hospitals using the Appreciative Inquiry approach. This helped get a clear understanding of what works best in the doctor-patient interaction. Thematic analysis of the interview transcripts was carried out. Coding was done and data was categorized. Aggregated common themes gave insight into clinicians' perception of effective medical interviewing.

Findings: The results of this qualitative study showed that successful medical interviews help develop a strong physician-patient relationship. This facilitated the physicians to reach early diagnosis without relying on COWs, and other advanced technology. Such effective patient interviews also helped the physicians to ascertain the level of available social/family support. Since such a situation could be detrimental, particularly to the elderly; in such cases an informed physician is able to connect them to relevant social services. The most significant recurring theme that emerged from this qualitative study was the need for physicians to be motivational during the interview process. The results showed that motivational interviewing strategies used by the physicians also succeeded in enhancing treatment adherence by the patient.

Research Implications: The inquiry affirms that in spite of the advancement in diagnostic technology, mo-

tivational medical interviewing is the most effective tool available to a physician. This helps lead to early diagnosis and better therapeutic outcomes. Future comparative studies of Diagnostic technology versus Medical interviewing could further develop our understanding of the issue.

Practical Implications: The most significant practical implication of this study is for Health educators to realize that in spite of the advancing diagnostic technology, it is imperative that medical schools emphasize the development of interviewing skills in their students. While it is necessary that health practitioners should be adaptable, and respond to changing demands (Simpson et al., 2006); the advanced diagnostic tests must be viewed by medical students and healthcare professionals not as a substitute, but rather a complement to the medical interview process. This must be communicated at the institutional level (Simpson, Hafler, Brown, & Wilkerson, 2004), as an established organizational framework is required to support such educational pursuits (Fincher et al., 2000).

The Impact of Organizational Behavior on Organizational Performance and Sustainability: A Case Study of Shipping Companies in Dubai

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Organizational behavior permeates every aspect of an organization and cannot be separated from the normal operational activities of organization. Creating a culture of sustainability in an organization is not simple or straightforward and thus involves major shifts in the traditional framework within which an organization is set. Therefore organizations need to identify the key factors that enable and drive sustainability in an organization. This exploratory study elaborates the impact of organizational behavior on organizational performance and sustainability. This study is conducted at a shipping company based in Dubai. The purpose of this study is to examine the impact of organizational behavior on organizational performance in order to know that how business behavior and culture of an organization assist in enhancing the organizational performance in a more sustainable manner. The paper is structured in the following manner. First, the literature on organization behavior is reviewed. Second, the relationship between leadership and organizational performance has been highlighted. Third, the paper discusses the impact of organizational behavior and culture on the shipping company, as a case study. The study is based on a two-pronged approach. The quantitative approach is adopted in which a questionnaire is used to collect the data. In the second part, the impact of organization behavior on organizational performance and how these performance contribute to sustainable development has been assessed through several ways including personal interview and focus group interviews through structured questionnaire. Fourth, the balance score card is used to measure the organizational performance. Finally, the paper concludes that to develop an organization in a sustainable manner, a set of collective organizational values must be articulated, which will serve as guiding principles

of workplace behavior and practices. The findings of the study indicate that all the dimension of the behavior has a positive influence the different perspective of organizational performance.

Career Dynamics – 4 Cs’ - A novel tactic in Human Resource Development

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In this fast-moving, competitive world, Human resource development is a sprouting and dynamic field. It is moulded by the people with their skills, organizations they are working in, and the world they are living in. Technological changes are always a boon and burden to the entire society. In this aspect, individuals and organizations must be very conscious about their capabilities, commitment, contribution, and competencies in order to conquer the entire world. A research on Career dynamics focuses on the innovative ideas for the development of individual, the efficiency, and turnover of the organization. The main emphasis is to analyse the difference in the employees’ perspective in their career development plans from different sectors. Accordingly, the study was concentrated in Dubai, UAE, in the shape of ‘Career Dynamics by 4Cs’ from three different sectors namely; healthcare, education, and real estate industry with a sample size of 100 from each sector. Moreover, the descriptive statistics confirms the relationship of career planning as an independent factor for HRD towards the achievement of both organization and personal goals. The outcome of the survey proved the essentiality of this business-led approach in employee development and self-actualisation. Also, it compares the extent of career planning in different sectors with respect to the demographic factors. Therefore, the above-mentioned sectors can establish opportunities for change through continuous learning process into its business strategy that reinforces organizational expansion and transformation. In short, the study unlocks the door of hidden human proficiencies to the world of modernisation by leading a bursting and wealthier lives.

Leveraging Blockchain for Identity Management and Recruitment Sector

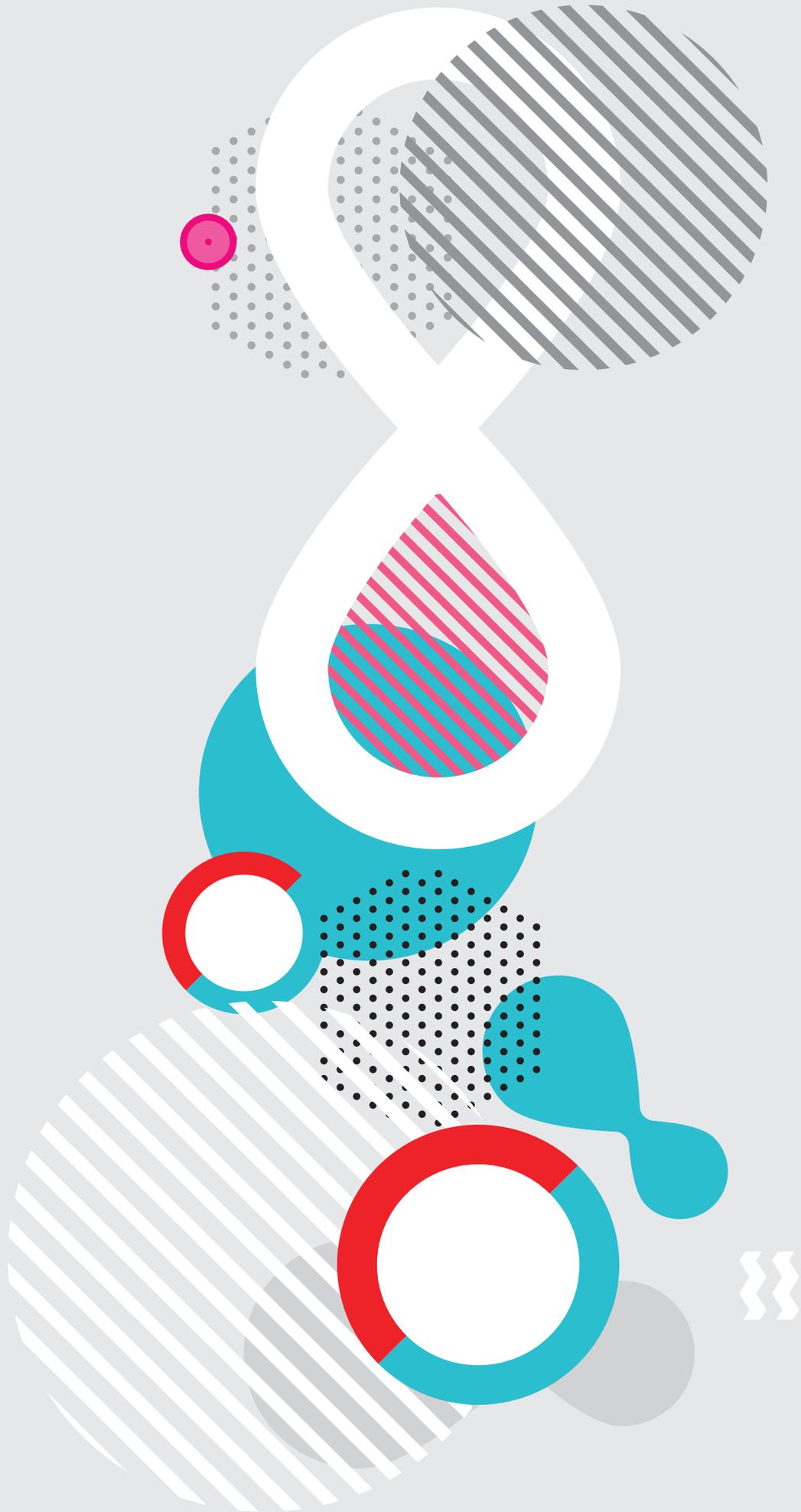
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It is challenging, time consuming, and costly finding top talent, and the recruitment process is often frustrating for candidates and employers. Hence, having the credentials of an individual’s CV verified by educators and former employers is of enormous benefit. Blockchain technology is a powerful agent to broker based industries. It can be put to great use in the recruitment sector. The technology can assist in expediting processes undertaken by intermediaries to be put to better use by employers in growing or optimising their businesses, thereby saving time and money over background checks by the Human Resource Departments.





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